

The Ragchewer

January 2008

The monthly newsletter of the
Lancaster & Fairfield
County Amateur Radio Club

On the Web: www.k8qik.org

Send email to K8QIK@columbus.rr.com

Club Meetings :

1st Thursday of every month
at 7:30 pm at the club house.

VE Testing:

The third Sunday of every
even numbered month.
Register at 9:30 am and
testing at 10:00 am

Club House

Location:

On State Route 37 (Granville
Pike) next to Beavers Field.

Nets:

Mondays at 9:00 p.m.
147.03 MHz (+.6)
146.70 MHz (-.6) Alt. Freq.
443.875 MHz (+5)
Thursday at 8:00 p.m.
443.875 MHz (+5)
UHF linked system

Packet BBS 145.53MHz
K8QIK-1 BBS
K8QIK-2: Ohio53

Weather Spotter Net:

146.76 Repeater with 123Hz
tone Tuesday at 7:30 pm
Alt frequency 147.24 MHz

January Birthdays

Greg Boye	W8NGA
Robert Northrup	KC8PSW
Mark Urbine	KC8TUW
Gregory Shires	KC8OZP
Mark Borys	KD8CBU
Constance Snoke	N8LPC
Edward Campbell Sr.	WD8PGO
Michael Hamilton	KC8LCY

Thursday Night Radio Night

Radio night is every Thursday at 6:00 p.m.
(except the first Thursday which is the club
monthly meeting). Work a little HF, maybe
build something? How about a hot cup of
coffee. We'll have them all waiting for you.

ARRL Membership

When you join the ARRL, or renew your
membership through the club, we retain \$15 for
each new membership OR lapsed membership
(of two years or more), and we retain \$2 for
each renewal. Please support our club, it doesn't
cost any more. Send or give all paperwork to
Treasurer with your money.

February VE Test:

The next VE test will be Sunday February
17th at the clubhouse on Route 37. Register at
9:30 a.m. and testing begins at 10:00 a.m.
Prepare yourself, take this test and upgrade!

Free Swap and Sell

If you have anything ham radio related, you can
swap it or sell it here. List your items for free.
Give a price and how to contact you. Send the
list to K8QIK@columbus.rr.com

2007-2008 Officers

President:

Charlie Snoke, N8KZN

Vice President:

Mark Urbine, KC8TUW

Treasurer:

Ed Campbell Sr., WD8PGO

Secretary:

Mary Travis, KD8EEI

Trustee:

John Hilliard, W8OF

Station Engineer:

John Hilliard, W8OF

Net Manager:

John Fick, KD8EEK

Activities Manager:

John Fick, KD8EEK

Public Relations:

Mark Urbine, KC8TUW

Flower Fund:

Ed Bennett, KD8EEJ

Web Master:

Robert Northrup, KC8PSW

Chief Cook and Bottle Washer:

Charlie Snoke, N8KZN

Editor:

Jack Travis, AE8P
(740) 687-1985

January 3, 2008 Meeting Minutes

At 7:35 p.m. the meeting was called to order by President Charlie Snoke, N8KZN who lead the Pledge of Allegiance

There were 20 members present. There was one new application to review and two applications for second review.

Officer Reports

Secretary Report: Mary Travis, KD8EEI

Minutes are posted in the Ragchewer. Motion to accept by Robert, KC8PSW and seconded by Don, WD8PCF. Motion carried.

Treasurer's Report: Ed Campbell, Sr., WD8PGO

Ed gave the club financials. Motion to accept by Jack, AE8P and seconded by Gary, W8GTS. Motion carried.

VP Report: Mark Urbine, KC8TUW

Mark read the minutes from the Exec. Committee Mtg. held on December 13th.

Trustee Report: John Hilliard, W8OF

No report – John unable to attend.

Committee Reports

VE Testing: Allen Sellers, KB8JLG

Allen reported there were three people tested in December and passed - one general and two technicians. Charlie also thanked Allen for his donation of \$120 on behalf of the VE testing program.

Monday Night Net: John Fick, KD8EEK

Jan. 7 John, W8OF
Jan. 14 John, W8AGS
Jan 21 Charlie, N8KZN
Jan 28 John, KD8EEK
Feb 4 John, W8AGS

Ragchewer: Jack Travis, AE8P

Nothing to report. Submit any article, news item, cartoon, or other ham related bits of trivia to Jack at k8gik@columbus.rr.com

Emergency Coordinator: Ed Campbell, WD8PGO

Nothing to report – He asked everyone to keep a watch on the weather for possible need. Charlie said

he had been in touch with Bob Clark at the EMA office who would like to meet with the radio club executive committee to discuss the club's role in emergencies and introduce new EMA director to everyone.

Safety: Scott Snoke, WD8IXO

No report

Station Engineer: John Hilliard, W8OF

No report – John unable to attend.

Activities Manager: John Fick, KD8EEK

50/50 winner was Greg Russell, KB8USO – not present no winner - \$33.50 is current total. John said he is going to get a cost for getting a bus to take a group to the Dayton Hamvention in May and he will report back at next meeting with the cost.

Flower Fund: Ed Bennett, KD8EEJ

Ed has volunteered to be in charge of the flower fund and collected \$11.00. The winner was Connie N8LPC and the new balance is \$95.77.

Old Business

Charlie called for a vote in favor of accepting Richard Weaver, N8ENC as a returning member. All in favor.

Charlie called for a vote in favor of Joel Skeele, KD8GTL as a member. All in favor.

New Business

Charlie, N8KZN said he had an article out of the Eagle Gazette describing what it takes to get information into the newspaper. He gave this to Mark Urbine for follow up and hopefully get our meeting notices in the newspaper.

Robert, KC8PSW asked if the e-mail addresses for the officers and members should be posted on the website. It was agreed that e-mail addresses would not be posted on the website.

Charlie said the Nelsonville Hamfest would be held on Jan. 20th.

Charlie also said that he would not do the antenna check until warmer weather – probably February. Ed

Campbell will provide Charlie with a list of what needs to be checked.

Charlie also said that he would probably ask Dave Phalen to the March meeting if it would fit his schedule.

Don, WD8PCF made a motion to adjourn, second Jeff, WD8JLI. Motion carried. Meeting adjourned at 8:37 p.m.

Respectfully submitted,
Secretary, Mary Travis, KD8EEI

Upcoming Hamfests

January 20th is the 12th Annual SCARF Hamfest in Nelsonville, Oh. Additional information is available from KC8QDQ@hughes.net

January 20th is the Tusco Amateur Radio Club Hamfest in /Strasburg, Oh. Additional information is available at <http://noard.com/tuscoarc.htm>

February 3rd is the Noars Winter Hamfest in Elyria, Oh. Additional information is available at <http://www.noars.net/hamfests/WF.htm>

February 10th is the Mansfield Mid-Winter Hamfest in Mansfield, Oh. Additional information is available at <http://www.iarc.ws>

Tubes For Sale

If you need tubes for your boat anchor or TV contact Jeff Bell WD8JLI at 614-774-2973 or email at jbell@imagearray.net he has a huge supply for most needs

E-mail Addresses

If you are currently receiving The Ragchewer via regular mail but have an Internet account, the Ragchewer can be sent to you and save the club some money. You'll also get your Ragchewer about a

week earlier. Send me your e-mail address and tell me to take you off the snail mail list.

If you have a new email address, be sure to also let me know. Send to K8QIK@columbus.rr.com

The Wayback Machine #19

By Bill Continelli, W2XOY

In 1974, the amateur radio population was on the increase again, thanks to the popularity of 2 meter FM. Incentive Licensing had been in place for 5 years, and the anger and resentment over losing HF frequencies was beginning to fade.

However, trouble was brewing. The FCC had several petitions on their agenda, most from hams, and one from the Electronics Industry Association. In late 1974, two bombshells were dropped.

The first surprise was Docket #20282--the FCC's restructuring plan for amateur radio. Apparently oblivious to the upheaval that was caused in the 1960's with Incentive Licensing, the FCC was now proposing rules that would take away major privileges from Generals, eliminate the ability of 90% of Technicians to renew their license, and, horror of horrors, create a new "No Code" license. The proposal was somewhat complicated, so grab a pencil and some paper, and follow along.

The FCC, in essence, wanted to create a "dual ladder" incentive licensing system, with two routes available. The first, named Series A, covered the

shortwave frequencies, while Series B encompassed the VHF-UHF allocations. The dividing line between Series A and Series B was not 50 MHz, as one would expect, but rather 29 MHz, or roughly the middle of the 10 meter band.

Series A contained familiar amateur classes-- Novice, General, Advanced and Extra. Novices would get a power increase from 75 to 250 watts input, and would also gain a 5 year renewable license to replace the 2 year non-renewable one now in existence. Generals would lose big--the 29.0 to 29.7 MHz segment of 10 meters would be taken away; they would be limited to A1 (CW), A3 (AM & SSB), and F3 (FM) emissions only (in other words no more slow scan TV, RTTY, or radio control); power output would be reduced to 500 watts PEP; and they could no longer supervise mail examinations. Furthermore, they could no longer be the trustee of a club station or repeater. Generals who were already licensed if or when this proposal was adopted would also be "Grandfathered" into the Series B Technician Class license.

The Advanced class gained under Series A. They

kept all of their privileges below 29 MHz, received a power increase to 2 KW PEP output, gained access to the Extra Class phone segments, and would be "Grandfathered" into the new "Experimenter" Class in Series B.

The Extra Class lost their exclusive phone bands, which would be shared with the Advanced license. However, they kept their CW subbands, and gained the 2 KW PEP output, as well as a lifetime operator license. Note that the Conditional Class license is not mentioned. That's because the FCC incorporated it into the General license. Conditionals would have the letter "C" after the word General, and their license would not be renewable.

On the Series B, or VHF-UHF side, the proposed changes were even more drastic.

The FCC, for the entry level license, would create a new "No Code" "Communicator" Class, which would allow operations above 144 MHz using F3 (FM) emissions only.

Technicians would gain some frequencies--the 50.0-50.1 and 144-145 MHz segments--but otherwise, like the Generals, would lose big. They could only use A1, A3 and F3 emissions with 500 watts PEP output, and could not be the trustee of a club station or repeater. However, the worst news for Technicians was that those who had taken their exam via mail (about 90%) would not be allowed to renew. They, like the Conditionals, would have to pass the test again before their license expired.

One step above the Technician Class was another new license proposed by the FCC--the Experimenter Class. "Experimenters" would have all amateur privileges above 29 MHz, with 2 KW PEP output.

Above the Experimenter license was the Extra Class, which held the distinction of being at the top

of the ladder for both Series A and B.

The FCC proposed adjusting the written exams to accommodate the different requirements of Series A and Series B. Element 2 (the old Novice written exam) would be rewritten into 2A (Novice) and 2B (Communicator). Novices would have to pass the 5 wpm code, as well as 2A, while Communicators only had to pass 2B. Likewise, the General Element 3 would be divided into 3A (General) and 3B (Technician). Generals and Technicians would still have to pass the 13 and 5 wpm code tests respectively. Advanced Class operators needed 13 wpm and the Element 4A written exam, while Experimenters had to pass a 5 wpm code test along with Element 4B. For the Advanced and Experimenter Classes, only the 20 wpm code test was needed to upgrade to Extra.

Since, except for the Extra, the Series A and Series B licenses did not overlap, the FCC would allow amateurs to hold one license in each Series. This created some interesting possibilities. As previously noted, a General could also hold a Technician, and an Advanced the Experimenter. Both Technicians and Experimenters could obtain a Novice, if they passed Element 2A. The "No Code" Communicator could also hold a Novice, if Element 2A and the 5 wpm tests were passed.

The FCC set a June 1975 deadline for comments on the restructuring proposal. The ARRL, still smarting from the Incentive Licensing conflicts, wasn't going to comment until they had taken the pulse of their members. What was the ARRL's response? And just what was "Class E CB", the other FCC proposal? How did it affect Amateur radio? In our next installment, the "Wayback Machine" will have the answers

Local Repeater Etiquette

The Lancaster & Fairfield County Repeater system is there for all of the members and guest's enjoyment. Please try to set an example for other operators when using the System.

1. Count to three after the end of a transmission before you key and talk.
2. Never transmit tones without giving your call sign first.
3. Never throw blank carriers over someone under any conditions.
4. Always ID every 10 minutes during and also at the end of a conversation.
5. If you are going to leave your transceiver unattended SHUT IT OFF.
6. Adjust your transmitter setting for a 3 minute TIME OUT.

REMEMBER YOU ARE RESPONSIBLE FOR ALL YOUR TRANSMISSIONS



John, KD8EEK (2008 Activities Director) and Kay, KC8HJW (2007 Activities Director) draw names for prizes at the annual Christmas party.

Great Christmas party, a good time was had by all.

Ten-Tec Inc.

Editors note: Thanks Ralph, W8BVH for bringing this article to our attention.

By STAN VOIT

SEVIERVILLE - At one time that industrial park across from Sevier County High School was alive with manufacturing plants, cranking out product for shipping around the world. It's not that way today. But one staple of the industrial park remains. Ten-Tec Inc. heads into 2008 celebrating 40 years of making equipment for the amateur and commercial radio operator. It's one of the few manufacturing plants remaining in Sevier County.

Behind the tan brick walls of the building that faces the high school, more than 70 employees work to make short-wave radios and component parts, and while some steps in the process are automated, much remains done by hand. That attention to detail has

kept Ten-Tec in business despite pressure from foreign makers of similar products.

"Our primary customer is the amateur radio operator," Jack Burchfield, president of Ten-Tec and an employee for all 40 years, said. "We also supply receivers that are used by commercial and government users."

Some of Ten-Tec's products are used by branches of the U.S. government for ... well, let's just say secretive work. Burchfield, operations manager Jim Wharton and vice president Gary Barbour understandably don't feel comfortable talking about that side of their business too much, but imagine radio transmitters, U.S. government and secrecy and you get as much of the picture as you need to know. Mostly, though, Ten-Tec makes the radios and related equipment used by amateur radio operators.

The late Al Kahn, an amateur radio enthusiast himself, founded Ten-Tec. Kahn sold his Michigan company, Electro-Voice, and moved south, looking for something new to do. He figured out that by combining his own passion for radio with the need to make quality parts for those who have the same hobby, he could come up with products both needed and marketable. He bought the land on what is now Dolly Parton Parkway and put up the building that has since been expanded twice to accommodate the growth of the business.

Electro-Voice, by the way, got its name from legendary Notre Dame football coach Knute Rockne, who wanted a voice-amplifying system so he could stand on a tower and shout instructions to his team during practice. The microphone and other Electro-Voice equipment later were used by troops in World War II. The company is still in business.

Kahn, who died in 2005 at the age of 98, would be impressed with how Ten-Tec has evolved. Forty years ago the prevailing method of manufacturing the parts was solid state and transistors. Today's it all computerized. "It's software-driven today," Barbour said. "It's a much better product."

Maybe it is, but there are Ten-Tec owners around the world who are still using equipment they bought 30 or more years ago. The company repairs every piece of equipment it has ever sold, so it still maintains parts to fix those solid-state transmitters from decades ago - and the people trained to repair them. "When we started," Burchfield said, "we were the only ones making transceivers. Today we have competition from the Japanese."

Burchfield came to Sevierville in 1968 after working with Kahn for 10 years. Burchfield had left Kahn's company and was working in New Jersey when his former boss called and told him about the plans for the Sevierville plant.

"I came down then as an engineer," Burchfield said. "I've been here ever since."

While some U.S. manufacturing has gone away due to foreign competition, Ten-Tec has remained.

"We don't go head to head with the most popular items," Barbour said. "We go for niches. We focus on high performance." Between 10 percent and 20 percent of the company's business is with government.

"We're one of the two companies left making amateur radio equipment in the United States," Wharton said.

Ten-Tec continues to do it all, from product

development, research and manufacturing. It does buy some of the parts used to make the equipment, but mostly it's all made and done in house.

"We do everything here," Barbour said. "From manufacturing to demonstration to distribution. We outsource some stuff like circuit boards, but many, many things are done here."

Ten-Tec also has a retail store where consumers can buy equipment as well as how-to manuals for getting into the amateur radio game. It is the only radio-related activity that still requires a Federal Communications Commission license, and Ten-Tec sells the study guides for helping persons learn the material and pass the test.

Wharton and Barbour figure there have been more than 1,000 people employed at Ten-Tec over the last 40 years.

"Most of our jobs pay well above minimum wage," Barbour said. "We do have some skill jobs, such as electrical technicians and electronics engineers."

Some of the employees have been with Ten-Tec almost from the beginning - like Elizabeth Castle, who adds components to circuit boards.

"It's a good-paying job and I really enjoy it," she said. "I wouldn't have stayed here for so long if I didn't enjoy it,"

Each piece of equipment leaving Ten-Tec is tested to be sure it's working. Many of the transceivers are made to order, containing features requested by an individual customer. But it all must pass muster with one of four trained technicians who test the equipment all put together before it leaves Sevierville. Most companies that mass-produce electronics test only selected models. "I think it helps us do business and stay in business that we do this," Barbour said. Ten-Tec maintains a repair division to fix everything it sells.

Barbour, Burchfield and Wharton are all amateur radio operators, as are roughly 20 percent of the employees. Each September Ten-Tec hosts a "ham fest," drawing thousands of amateur radio operators from around the country who see new products, sell each other equipment and tour the plant to see the latest items for sale. Ten-Tec does not charge anyone to be part of it, unlike similar ham fests around the country.

Ten-Tec equipment is expensive. Amplifiers sell for as much as \$4,300. You can buy a receiver for as little as \$359 or as much as \$4,295. Transceivers run from as low as \$2,195 to as much as \$4,295. It's an

expensive pastime.

"Ham radio is still a relatively stable hobby," Barbour said. "It hasn't grown much, but it hasn't declined either."

Today there is the Internet, cell phones and other more inexpensive ways to communicate with people around the world. Ten-Tec has seen more retirees get into the game, seeing it as a good way to spend time, make new friends and have some fun.

Barbour and Burchfield feel good about the future of the company and its place in Sevierville, although Burchfield does have concerns.

"There are not enough highly technical people coming out of our schools," he said. "Generally we have to import them. And transportation is tough. We have trucks come in here from all around, and they find it tough to get here at the appointed time. But you run into that everywhere."

Getting Grounded

Editors note: Thanks John, W8OF for bringing this article to our attention.

By Ernest M. Duckworth Jr., P.E.

With more than 150 lightning strikes per second, damage to equipment brings losses exceeding \$26 billion annually in North America and nearly three times that amount worldwide. Insurance payments for lightning damage claims total 6.5% of all property and casualty claims. Ironically, damage to equipment can be prevented.

Methods that prevent lightning damage are simple, reliable and inexpensive when compared to the cost of repair—not to mention possible injury or death. Remarkably, methods for lightning protection cannot be found in building codes such as the National Electrical Code or the National Electrical Safety Code. Yet, builders rely on these codes for practically all construction in the United States.

Electrical equipment damage from lightning usually can be blamed on one or two reasons:

1) Improper or insufficient grounding and

2) No special protection from a ground potential rise (GPR). Improper or insufficient grounding allows equipment to be stressed or damaged by a difference in electrical potential from nearby equipment and metal objects as current flow is misdirected. A lack of special protection from a GPR allows equipment to be stressed because of its attachment to a remote ground through communications wire lines or power-supply wiring.

Standard protection for the termination of communications wireline services is the gas tube. Gas tubes are shunting devices that can be found on virtually every telephone pair terminated in homes and buildings. They are designed to shunt (connect to ground) "incoming energy," and thereby protect equipment and people from harm.

However, no shunting device protects electronic equipment from a GPR, or "outgoing energy." High

outgoing current flow from a lightning strike effectively lifts electrical ground. During a GPR, the shunting devices are connected to an elevated ground and merely offer an additional current path from the site to a remote ground. In this unfortunate way, gas tubes guarantee a connection of the communications path in the reverse direction from which they were intended to operate when there is a GPR.

Dangers from outgoing energy

The outgoing energy from a GPR places most telephone and power installations at risk for equipment damage and the people near them at risk for harm. One of the most dangerous locations for people is a 9-1-1 public safety answering point. The typical PSAP is a small building beneath a large radio tower. The tall tower supports radio communications antennas and forms a lightning target. Workers taking emergency calls must be at the PSAP phones constantly. They do not have the luxury of staying off the phone during lightning storms, which is recommended in virtually every telephone book.

The only effective method of protecting equipment connected to wireline communications from a GPR is through isolation—using optical isolators or isolation transformers. These devices prevent current flow. With no metallic path, there will not be outgoing current flow, equipment damage or risk of injury to workers.

To control lightning-strike energy as it dissipates requires division. There is no substitute for division for successfully dissipating the energy because of the magnitude of the current and the resulting surge impedance of any single dissipation path. Using 10 radials connected to a ground ring that is bonded to an antenna divides lightning current into 10 smaller segments. This division helps to ensure that the lightning will follow the grounding conductors for dissipation into the earth. The improved dissipation

also serves to reduce the resulting GPR to the adjacent equipment-building grounding system.

The copper wire grounding system can be greatly improved by placing conducting cement around the radials at the time of installation. The cement hardens into concrete, protecting the grounding system and giving it many more years of life. It also gives the system a lower ground resistance.

Tower location

Equipment buildings must be at least 30 feet from antenna towers. This is done to avoid damage caused to electronic circuits by the magnetic field associated with lightning. Magnetic field strength drops off as the square of the distance. If the real estate configuration prevents separating the building at least 30 feet from its antenna tower, consideration must be given to engineering a Faraday cage (wire mesh) around the interior of the building. Without a Faraday cage, equipment damage cannot be prevented no matter how well the equipment is grounded or isolated from remote ground.

Another reason to place equipment buildings or shelters at least 30 feet from antenna towers is to keep the lightning GPR at the tower base from saturating the building grounding system before most of the energy is dissipated in the earth. The grounding systems for the building and its tower must be bonded together at one single point, but a bond of 30 feet or more will significantly reduce the resulting GPR at the shelter because of the impedance of the lengthy bond. This is a rare exception in which a lengthy bond is an advantage in supporting a robust grounding system.

Single-point grounding (a “ground window”) is absolutely necessary to prevent equipment damage because the GPR from lightning strikes is a wave of rising voltage or an energy surge that passes through a grounding system. The nature of the wave demands that all equipment should be bonded to the grounding system at one location to ensure that the electrical potential of every metallic object connected to it rises and falls together.

Anyone using equipment susceptible to GPR must be protected by a single-point grounding system to guarantee that they won’t be injured by touching different pieces of equipment that otherwise might have different and harmful electrical potentials when

lightning strikes. This phenomenon is also known as “touch potential.” The use of a ground window (also called a bulkhead panel or waveguide hatch) where coax cables, waveguide and antenna wires penetrate the wall of the equipment building is indispensable. The bulkhead is made of solid copper. Its proper engineering design and installation will ensure that lightning energy does not enter the equipment building on cables from the antenna tower.

The bulkhead must be bonded to the building grounding system at the single-point grounding location—the same single point ground where the tower grounding system is bonded to the building grounding system.

Isolate wireline comms

A lightning strike to a grounding system produces an elevated ground or GPR. Any equipment bonded to the grounding system and also connected to wireline communications is likely to be damaged by outgoing current seeking remote ground. Individuals who may be working on equipment connected to the wire lines could be harmed because they would be in the path of the outgoing current.

An engineering design that protects this equipment isolates the wireline communications from the remote ground. Isolation is accomplished using optical isolators, isolation transformers or both. The isolation equipment, called the high-voltage interface, is housed together and mounted on a nonconducting surface in a nonconducting cabinet.

The HVI isolates the communications equipment during a GPR and prevents a current from flowing from the grounding system with higher electrical potential to a grounding system with a lower potential. The isolation completely protects equipment from damage and people from harm.

Simple lightning protection

Simple, reliable and inexpensive protection methods can prevent lightning damage to equipment. The three most important concepts are:

- 1) divide and control the lightning strike energy.
- 2) design a true single-point ground system.
- 3) isolate wire-line facilities from a remote ground.

A reliable, well-engineered grounding design will all but completely eliminate lightning threats to equipment and people.

ARRL Insurance Benefit

By Bill Morine, N2COP

ARRL Public Relations Committee Member

Several years ago, my automobile insurance carrier mailed me a new policy. I was about to file it away with my other papers when my eye caught the title of a section of the policy that read, "CBRadio / Telephone Exclusion". I read the language and called my carrier. The claims department spokesperson confirmed that my amateur radio equipment was excluded from the basic coverage however for an additional \$90 per year I could buy a rider that would cover my ham radio equipment. This was a nice offer but my equipment would still be subject to my policy's \$500 deductible. Another example of an inadequate insurance policy is the case of my buddy whose ham shack suffered a lightning strike. He had a \$1,000 deductible on his policy and to make matters worse, his claims adjuster had no knowledge about amateur radio. My friend has been off the air for several months as he and the adjuster argue over the process of repairing his HF transceiver.

That's when I realized another benefit of ARRL membership. - ARRL's "All-Risk" Ham Radio

Equipment Insurance Plan. This is a comprehensive program that protects Amateur Radio equipment in your home or car from all risk forms, which includes fire, lightning, theft, collision, and other accidents and natural hazards. Coverage can also be provided for computer software and hardware as well as station accessories such as antennas, rotators and towers.

Coverage is affordable and in most cases is substantially lower in price than adding a rider to your current homeowner's or automobile policy. As with all insurance products, you should read the provisions of coverage carefully by going to

<http://www.arrl.org/FandES/field/regulations/insurance/equipment.html>

If you're like me and you shop around for insurance then you will find that this is a good deal. What's more is the underwriter even has an agent dedicated just to ham radio claims so it's nice to know that if you should ever have to file a claim you will be working with someone who is familiar with Amateur Radio.

Air Travel Tips

Effective January 1, 2008, the following rules apply to the spare lithium batteries you carry with you in case the battery in a device runs low:

Spare batteries are the batteries you carry separately from the devices they power. When batteries are installed in a device, they are not considered **spare batteries**.

You may not pack a spare lithium battery in your **checked baggage**.

You may bring spare lithium batteries with you **in carry-on baggage**. A battery's electrical connections (also called contacts or terminals,) must be protected from contact with metal or other batteries that may cause the battery to short-circuit.

Even though we recommend carrying your devices with you in carry-on baggage as well, if you must bring one in checked baggage, you **may** check it with the batteries installed.

The following **quantity limits** apply to **both** your spare and installed batteries. The limits are expressed

in grams of "equivalent lithium content." 8 grams of equivalent lithium content is approximately 100 watt-hours. 25 grams is approximately 300 watt-hours:

Under the new rules, you can bring batteries with up to 8-gram equivalent lithium content. All lithium ion batteries in cell phones are below 8 grams equivalent lithium content. Nearly all laptop computers also are below this quantity threshold.

You can also bring up to two spare batteries with aggregate equivalent lithium content of up to 25 grams, in addition to any batteries that fall below the 8-gram threshold. Examples of two types of lithium ion batteries with equivalent lithium content over 8 grams but below 25 are shown below.

For a lithium metal battery, whether installed in a device or carried as a spare, the limit on lithium content is 2 grams of lithium metal per battery.

Almost all consumer-type lithium metal batteries are below 2 grams of lithium metal. But if you are unsure, contact the manufacturer!

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K8QIK

January 2008



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