

The Dipole

Radiating the News of the Marple Newtown Amateur Radio Club

June 2010

Next Club Meeting: Thurs. June 3rd, 7 p.m. at The Gauntlett Center

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FIELD DAY AND FOOD MEETING

Members of the Marple Newtown Amateur Radio Club, along with volunteer members of other Delaware County Ham Radio groups will meet at 7 p.m. on Thursday, June 3 to finalize the plans for the **2010 Field Day**. This meeting, complete with the traditional **6-foot hoagies** will be held at the Robert Gauntlett Community Center, Media Line Road, near West Chester Pike, Newtown Square.

Other participating groups scheduled to contribute to this year's program also include the Delaware County Amateur Radio Association, the Mobile-Sixers, the Boeing Amateur Radio Club, and the Delco Dug, digital users group. An invitation has also been extended to other regional Amateur Radio groups.

Interested AMA Radio operators are invited to bring their appetite, suggestions, ideas, and energy to this fun-filled and important gathering.

This collection of Amateur Radio operators will once more populate Newtown Township Drexel Lodge Park on West Chester during the Saturday, June and Sunday, June weekend. As in the past, this location will be the site of this area's emergency communication's exercise.

Commenting on this valued training, Marple Newtown Amateur Radio Club president Walter Faust stated, "This is a valuable undertaking. It is one that finds out what works well and what needs to be 'fine-tuned.' By having multiple groups working together, we all are planning for an event everyone hopes never happens."

For more information, please contact Marple Newtown Amateur Radio Club president, Walter Faust, at **610-622-2200**.

MARPLE NEWTOWN AMATEUR RADIO CLUB
c/o The Gauntlett Center
20 South Media Line Road at West Chester Pike
Newtown Square, Delaware County, PA 19073

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The Dipole

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Meetings, Nets, and Packet BBS
Monthly Club Meetings: First non-holiday Thursday,
7:00 p.m. at the Gauntlett Center in Newtown Square,
Delaware County. Talk-in: 147.195 repeater
Daily Weather and Information Net: Every morning at 8:30
a.m. on 147.195 repeater
Club Web Page (including online version of *The Dipole*):
<http://mnarc.org>
Delaware County ARES Net: Every Wednesday at 19:30 local

The Missing Issue

Timing is an important element in all forms of communications. Just several days before the deadline for the transfer of eDipole data from its origin to the waiting computer of Tom Tenaglia, K3TAT, an unexpected and unwanted hospital stay by Jim Biddle, W3DCL, disrupted the data flow.

This missed transfer and the time constraints resulted in no **eDipole** for the Month of May.

This will be the last issue of the Marple Newtown Amateur Radio Club's electronic newsletter until its post summer resumption. All readers are invited to attend the June Field Day. Remembering this activity is more training than contest will aid in everyone having a good time during this educational and enjoyable culinary experience.

Not all good antenna installations occur in the cold and wet winter climate. Make good use of the weather and leisure time along with the extended daylight to provide wires or metal arrays that can make winter operation better than with the former antennas.

While working with metal and wires, paying attention to the locations of other wires and other possible dangers are good basic safety rules.

A SPECIAL THANKS TO TOM TENAGLIA K3TAT. He has become accustomed to my seemingly last minute creation of the **eDipole**. I admit that I do push the wire. Just like my newspaper writing experiences, the best material is that last minute information. I feel good when the **eDipole** "hits the street" with information before the 'big boys.'

THANK YOU SO MUCH TOM.

See you on the radio

Jim Biddle, W3DCL

The End Is Near

The Last Tech-Plus License to Expire in June

History has a way of altering the perceptions about time. For many, it is difficult to realize how long ago it was the FCC dropped the 5 word-per-minute Morse Code requirement for new technicians. As a reminder, that event took place in February 1991.

As another test of time, it was in 1994, the FCC created a new class of Amateur Radio operator, the Technician-Plus. Also called the Tech-Plus, these license holders differed from the Technician Class license; they had passed the Morse testing. These operators also had the honor of having more operating privileges on HF.

Some FCC homework has unearthed who will become the last holder of this soon-to-be-last Tech-Plus license holder. They have discovered that Patricia Phillips, N3IGI, of Pittsburgh, Pennsylvania, received her Technician licensee on June 12, 1990.

Their research also discovered that on March 21, 2000, she upgraded her license to Tech-Plus, and, at the same time, renewed her license. That license will expire on June 12, 2010. When this license expires, her renewal will be as a Technician Class Amateur Radio operator.

Following the FCC's restructuring of the Amateur Radio licence classes, there were six classifications -- Novice, Technician, Tech-Plus, General, Advanced and Amateur Extra. Subsequent changes in licensing now only supports three classifications -- the Technician, General and Amateur Extra identities.

Novice and Advanced class licenses can currently still be renewed and modified, but Tech-Plus licensees will be different. As stated above, they will be known as Technicians upon renewal. It should be noted that despite this nomenclature change, the former Tech-Plus operators will still retain their code credit and HF operating privileges.

In yet another history review, the FCC's Bill Cross, W3TN, explained the Tech-Plus licenses came about when those who had earned their Technician licenses when the Morse code requirement was still in effect. This group also wanted a way to distinguish themselves from the new Technician licensees; i.e., those who did not have a Morse code requirement

On December 20, 1994 the FCC made this distinction formal. It was then that the commission issued an ORDER that was known by its formal and lengthy identity, *Amendment to Amateur Service Rules to Change Procedures for Filing an Amateur Service License Application and to Make Other Procedural Change*

An era will indeed end on June 12. Many readers of the *eDipole* have lived through this transition and some are still waiting for other changes. One of these possible changes will deal with the Advanced Class license and the frequencies this dying breed "have as their own."

Time may once more create change.

Weather Training Announced

It has been announced that a combination Basic and Advanced Skywarn Spotter training session will be offered Saturday June 12, 2010 from 0900 through 1500 at Chester County's Government Services Center. This combined, two-segment training will be held in the third floor cafeteria. Teaching this course will be long time NOAA Weather staffer Joe Miketta from the Mt. Holly, New Jersey National Weather Service facility.

Basic Spotter training starts at 0900 and Advanced Spotter training will start at noon. It should be noted that in this program, first preference will be given to residents of Chester County, but all are welcome as space permits

Anyone over age 16 is eligible. While an Amateur Radio license is desirable, it is not a requirement to become a Skywarn Spotter.

Lunch will be provided. Seating is limited and advance registration is REQUIRED. Please send your willingness to participate in this valuable, regional program by sending an e-mail message to George J Vargo, Jr. at W3XE@arrl.net

The Better Way

Charles Higgins, W3CAU, once more provides appreciated text for the *eDipole*. This offering shares a meaningful and cost-containing suggestion. His message began with, "If you are planning on going to the Battleship New Jersey or the Aquarium in Camden and you are going to be in the city here is way to avoid paying the \$4.00 bridge toll."

His shared text explains the way to save half of the bridge toll. Additionally, this suggested alternative has its own way of making the trip to this famous war ship even more memorable.

The following is the full text of this suggestion; it came from Jack Williard, Senior VP – Marketing and Sales, Battleship New Jersey Museum and Memorial:

I am excited to announce the return of the Waterfront Connection shuttle for this summer. The shuttle will begin running from Philadelphia's Independence Visitor's Center at 6th and Market Street to the

Camden Waterfront on Friday, May 28. The shuttle will run weekends only through June 14. Beginning on June 18, the shuttle will make daily trips from 10:45 am to 6 pm through Labor Day.

The price is the same as last year -- \$2 per person for a round trip. Shuttle tickets will be available for purchase at the Independence Visitor Center, the Battleship and the Aquarium.

Humor

1. Two antennas met on a roof, fell in love and got married. The ceremony wasn't much, but the reception was excellent.
2. A jumper cable walks into a bar. The bartender says, "I'll serve you, but don't start anything."
3. Two peanuts walk into a bar, and one was a salted.
4. A dyslexic man walked into a bra.
5. A man walks into a bar with a slab of asphalt under his arm, and says: "A beer please, and one for the road."
6. Two cannibals are eating a clown. One says to the other: "Does this taste funny to you?"
7. "Doc, I can't stop singing The Green, Green Grass of Home."
8. "That sounds like Tom Jones Syndrome."
9. "Is it common?"
10. "Well, It's Not Unusual."
11. Two cows are standing next to each other in a field. Daisy says to Dolly, "I was artificially inseminated this morning." "I don't believe you," says Dolly. "It's true; no bull!" exclaims Daisy.
12. An invisible man marries an invisible woman. The kids were nothing to look at either.
13. Deja Moo: The feeling that you've heard this bull before.
14. I went to buy some camouflage trousers the other day, but I couldn't find any.
15. A man woke up in a hospital after a serious accident. He shouted, "Doctor, doctor, I can't feel my legs!" The doctor replied, "I know, I amputated your arms!"
16. I went to a seafood disco last week... and pulled a mussel.
17. What do you call a fish with no eyes? A fsh.

18. Two fish swim into a concrete wall. The one turns to the other and says, "Dam!"
19. Two Eskimos sitting in a kayak were chilly, so they lit a fire in the craft. Not surprisingly it sank, proving once again that you can't have your kayak and heat it too.
20. And finally, there was the person who sent ten different puns to his friends, with the hope that at least one of the puns would make them laugh. No pun in ten did.

A Revisit to Mr. Murphy

Author Arthur Block has written extensively about the origin and impact of an everyday contributor to our successes and failures. In one of his writings, a 1977 book "Murphy's Law, and Other Reasons Why Things Go WRONG", Block included a letter that he received from George E. Nichols.

Mr. Nicholes recalls an event that occurred in 1949 at Edwards Air Force Base, Muroc, California. It stated that events at this "dry lake" became the origination of Murphy's Law. An excerpt from the letter reads:

The Law's namesake was Capt. Ed Murphy, a development engineer from Wright Field Aircraft Lab. Frustration with a strap transducer which was malfunctioning due to an error in wiring the strain gage bridges caused him to remark - "If there is any way to do it wrong, he will" - referring to the technician who had wired the bridges at the Lab. I assigned Murphy's Law to the statement and the associated variations.

This development engineer's place of employment, Wright Field, is now a part of the sprawling and very active United States Air Force facility, Wright-Patterson Air Force Base. This multiple discipline military installation, which is home to a never-ending collection of diverse projects and headquarters for many USAF responsibilities worldwide, has both a history and an exciting future. Its location is between Dayton, the home of the famous Dayton Hamfest, and Fairborn, a community formed by the 1950 merger of two adjacent cities, **FAIR**field and **OsBORN**.

Each of the two current cities is in two neighboring counties. A glance at a map of that area of Ohio demonstrates the size of this facility.

In a more local collection of comments about Murphy's Law, frequent *eDipole* Contributor Mike Pilotti, KF3CD has shared some comments on Mr. Murphy and his law. These comments come with combined ingredients of truth and humor.

Each of us has heard some of these before. True lovers of Mr. Murphy's law never stop loving to be exposed to their realities over and over. What a guy, that Murphy.

Murphy's Lesser Known Laws

1. Light travels faster than sound. This is why some people appear bright until you hear them speak.
2. He who laughs last thinks slowest.
3. Change is inevitable, except from a vending machine.
4. Those who live by the sword get shot by those who don't.
5. Nothing is foolproof to a sufficiently talented fool.
6. The 50-50-90 rule: Anytime you have a 50-50 chance of getting something right, there's a 90% probability you'll get it wrong.
7. If you lined up all the cars in the world end to end, someone would be stupid enough to try to pass them, five or six at a time, on a hill, in the fog.
8. If the shoe fits, get another one just like it.
9. The things that come to those who wait will be the things left by those who got there first.
10. Give a man a fish and he will eat for a day. Teach a man to fish and he will sit in a boat all day, drinking beer.

UPS Basics

For most traditional business applications, the abbreviation UPS is probably seen as United Parcel Service. To the technical world, a second and "life-and data-saving" definition is Uninterruptible Power Supplies.

These technical devices come in multiple types and sizes. The largest segment of this market is that demanding under 10kVA. Not to be ignored is the battery technology behind these devices that protect

home applications and business, industrial, scientific, and IT uses.

Since the UPS market is very large, the UPS business has become very competitive. The result of this market concept there are a large number of domestic and international UPS manufacturers from which to choose

There is a down size to this expanded market place. Unfortunately, the selection is so large that consumers of all types can be misled. This confusion has prompted UPS users ranging from a scientific laboratory to automated production, are often misled and as a result, they often purchase a UPS on price alone. A negative in this concept is the buyer purchases a unit or units without fully understanding what they are buying or what the available options may be.

One of the characteristics that must be taken into consideration is the use demands. When a UPS is being used for traditional home use, their needs are simple. If the home UPS user has as his or her main objective the desire to back up their home computer long enough to allow the operating system to perform an orderly shutdown.

For the other applications, users face a costly learning experience if they buy a UPS on cost alone. Before considering the purchase of a UPS, the user must know about the basic UPS design types.

The UPS Designs

Three basic designs populate the UPS market. They are off line, line alternative, and on-line. Each of these groupings provide different levels of back up and power protection.

Off-line UPS

The off-line UPS is the lowest cost and can provide basic battery backup and limited surge protection only. In every case, the unit is designed around low cost. Therefore in battery mode it does not provide a true sine-wave output and instead it has a very distorted quasi-sine and even square-wave outputs. When in utility power mode, the utility power is fed directly to the UPS output without any power conditioning.

Line-Interactive UPS

The line-interactive UPS is very similar to the off-line, except it has an internal automatic tap

switching transformer circuit (automatic voltage regulation or AVR). This circuit attempts to maintain a form of output voltage regulation in gross steps.

Depending on the cost of the line-interactive UPS, the output waveform can vary. When supplying output voltage, this voltage can be have an output waveform could be quasi-sine-wave or true sine wave.

In this type of UPS, when it is in utility power mode, the utility power is fed directly to the UPS output, without any power conditioning. In should be understood that a good quality line-interactive UPS will cost substantially more than an entry level line-interactive model.

This type of UPS is best suited for non-critical workstation based applications

On-line UPS

The on-line UPS is the best-grade UPS. When powered by the utility source, it converts the ac to a regulated dc, thereby removing most unwanted utility power problems. It then regenerates new, clean true sine-wave output power 100% of the time, whether operating in battery or utility modes.

Some alternate power source evaluators compare an on-line UPS to an electronic firewall that stands between the utility power and connected equipment. It is the best choice for use in any medium to large business, industrial, scientific, or IT application.

It should be noted that the on-line UPS is the only truly generator-compatible UPS. Unlike other UPS types, the On-line UPS eliminates generator frequency shifts and voltage sags. Because the on-line UPS incorporates a continuous duty inverter, it supports the connection of extended runtime battery packs, allowing runtimes over several hours.

It must be remembered that batteries are at the heart of every UPS. When a corporation includes a large number of UPS units, the cost of ownership may be a hidden and costly issue. The typical battery used in UPS units is valve regulated sealed lead-acid (VRLA) type batteries. They have been selected because they provide the highest power density at the lowest cost. Other battery types like lithium-polymer may have future promise, but currently, none of these possible battery times compare to the VLRA

It is hoped that future refinement in VRLA batteries will extend this battery type’s use life. Currently, the VRLA battery used in a UPS typically has a three to five year service life, if maintained in a 77°F environment and properly charged.

Besides not maintaining the battery at the proper state of charge, heat is the greatest enemy of VRLA batteries. As an example of the life-altering length of dependable service, when a three to five year life battery is installed in a 122°F environment, its service life will be shortened to less than one year.

A graphical display of the damages of heat on VRLA batteries installed in a UPS is demonstrated by two graphs.

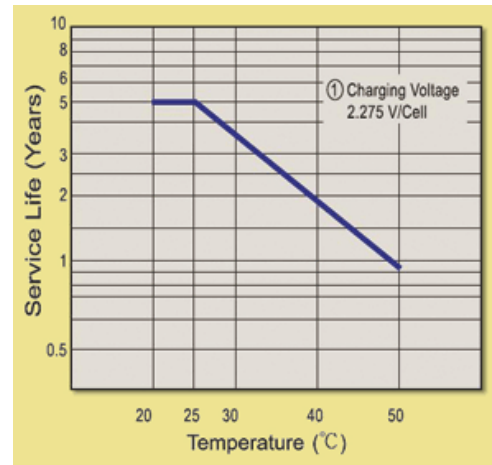


Fig. 1. Trickle (or float) service life for 3 to 5-year-rated batteries.

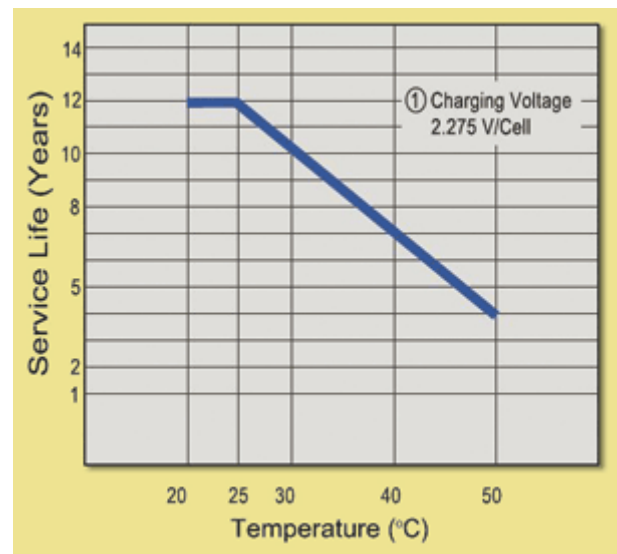


Fig. 2. Trickle (or float) service life for 10 to 12-year-rated batteries

Other hidden conditions can reduce the life of the UPS's VRLA battery service life. A VRLA battery life will also be shortened through excessive discharge and recharge cycles. It should be noted that offline and line-interactive UPS models can excessively switch to battery mode if installed in locations where utility voltage or frequency regulation is poor.

This type of supply voltage problem does not have a negative effect upon double-conversion on-line UPS models. They are immune from this problem because they only draw power from the batteries when the utility voltage is excessively low, or is lost completely. It is a trend that the on-line UPS typically costs a bit more. This fosters the fact their battery chargers often are of a better design and better maintain the batteries charge state. The result is a longer service life.

What is the future?

There are advances being made in VRLA battery technology. It is hope that in the near future buyers of a UPS may soon see UPS manufactures offering products using newly designed batteries having a higher temperature rating and up to 12-year service life.

Not only do these batteries reduce the number of battery replacements when installed into a 77°F environment, but also per manufacturer specifications, the batteries will have a four-year service life when used in a 122°F environment.

Proper UPS Storage

Proper UPS storage is another factor that can affect battery life. If a UPS is disconnected and not used for several months, the internal VRLA batteries will self-discharge. It should be noted that a non-connected storage of more than six months will result in a battery that will become overly discharged to the point they cannot be recharged again. The result of this improper storage technique will result in a premature battery replacement.

It is a good practice when storing a UPS to plug it in and recharge the batteries every four months. This will help in preventing the premature demise of a VRLA battery.

Dispose or Recycle

Lastly, when replacing all VRLA batteries always properly dispose or recycle these out-of-

service batteries in accordance with all local and federal laws and regulations. Many people are not aware that VRLA batteries are classified as hazardous waste. As one of many motivators to properly recycle or dispose of VRLA batteries, they are a special form of hazardous waste. They can be almost entirely recycled.

Area HamFest and Computer Fair

SUNDAY JULY 18, 2010

RAIN OR SHINE

INDOOR – OUTDOOR FACILITIES

KIMBERTON PA FIRE CO FAIRGROUNDS



MID-ATLANTIC AMATEUR RADIO CLUB

It is that time of the year. The *Mid-Atlantic Amateur Radio Club* has announced its 2010 Hamfest date, Sunday, July 18, 2010. Through its years of growth, this annual event includes a companion Computer Fair.

As in recent years, this indoor and outdoor gathering will be held at the Kimberton Fire Company grounds, Kimberton.

Viewing the accompanying map shows this gathering will be held on PA Route 113 (Kimberton Road) south of the intersection with Route 23 in Kimberton, PA. Kimberton is northwest of King of Prussia and just west of Phoenixville, PA.

To visit the MARC announcement flyer, go to <http://www.marc-radio.org/index.html>

Talk-in is available on the MARC repeater systems with coverage near Kimberton provided by 145.13 MHz PL 131.8-linked repeater in nearby Paoli.

Doors open for sellers at 0700 and for buyers at 0800. Admission, which is required of all vendors and attendees, is \$6, which entitles you to a door prize ticket.

For unlicensed children and non-licensed spouse of a licensed Amateur Radio operator the admission fee is waived.



Pictured is a vendor from a past year

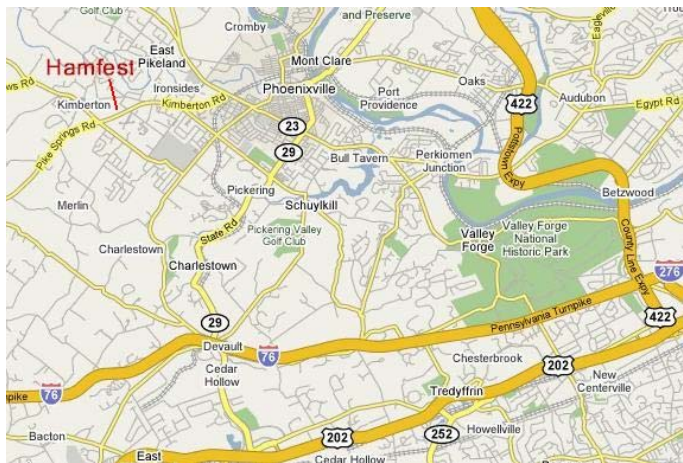
Tailgate spaces will be well marked. Each space is car width and the cars are to be parked “head in.” Tailgate space will remain at \$6 per space. It should be noted that this fee does not include the \$6 Admission fee. There are no reservations required for tailgate vending locations.

Indoor spaces include electricity. There is reduced pricing for five or more tables; those charges, not including the individual \$6 Admission fee, is \$8 for each table within this category.

Individual tables and multiple tables up to four tables is \$10. As in all selling, the \$6 Admission fee is not included.

It should be noted that reservations for indoor tables are required: reservations@marc-radio.org or Mike Pilotti, KF3CD may be contacted at 983 Crownpointe Lane, West Chester PA 19380 or by calling 610-696-5040

Only authorized vendors provide food and beverage sales.



Map supplied by MARC via K3DS demonstrates the ease in locating the MARC, July 18, 2010 HamFest and Computer Fair

New Strides in Technology

For years, the use of both realistic and hoped-for technology has been a staple of searching for people hiding behind within the interior of a building. The first, truly elementary form of this special technology focus was done through thermal imaging devices.

Much of this technology remains under a veil of secrecy. This veil makes it difficult to either believe or not believe what is seen on both the small and big screens.

A new technology that would permit a definitive “look” into urban structures became a tool-of-desire in the middle of the first decade of the 21st century. In a more sophisticated form of urban warfare than existed in World War II, the Iraq house-to-house fighting has demanded some easily used and simple form of through-the-wall radar.

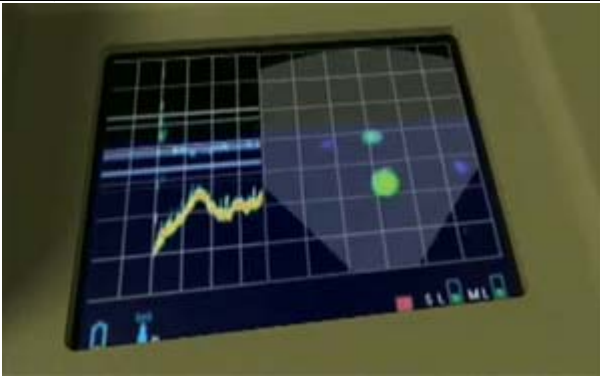
While lacking a true visual, Superman type of x-ray vision, the newest type of device can provide an approximate 9 yards of interior inspection without divulging the “look in” is being done.

How is this accomplished?

This device, the Xaver 499 Tactical Through-Wall Vision System used what has been described as a multi channel, Ultra-Wideband (UWB) sensor operating at very high bandwidth to detect the inhabitants of a room (within an 8-meter range).

The name of this locator device is a misnomer. Unlike Superman, the Xaver does not actually see through walls. Instead, it has been described as using electromagnetic pinpoint the locations of individuals and objects. The sighted objects can be either stationary or moving.

The Xaver 400 is portable with a size of a laptop computer and weighing less than seven pounds (including the battery). This is small enough to be toted by individual soldiers. It operates on a frequency range from 3 GHz to 10 GHz. The Xaver has an 80° field of view in both Azimuth and Elevation, and it is rumored to provide six hours of continuous operation.



The display is fairly intuitive, with blips and dots representing the inhabitants of a room. inhabitants (see picture to the left). The system can penetrate most common types of wall types. Successes have been accomplished with walls of cement, brick, plaster, and dry wall. The wireless video can be transmitted to distances greater than a football field.

Demonstrations show that United States military has robots that can stealthily infiltrate a room. But the Xaver 400 provides actionable intelligence without even entering. This permits the maintaining of an attackers element of surprise.

Daffy-nitions

Charles Higgins, W3CAU is welcomed source of both technical and humorous topics. As the mind and the body are stretched during the spring indoor and outdoor activities coupled with the mental and physical preparations for Field Day, this is a good time to use laughter a medical and mental helper.

1. A bicycle can't stand alone; it is two tired.
2. A will is a dead giveaway.
3. Time flies like an arrow; fruit flies like a banana.
4. A backward poet writes inverse.
5. A chicken crossing the road: poultry in motion.
6. When a clock is hungry it goes back four seconds.
7. The guy who fell onto an upholstery machine was fully recovered.
8. You are stuck with your debt if you can't budge it.

9. He broke into song because he couldn't find the key.
10. A calendar's days are numbered.
11. A boiled egg is hard to beat.
12. He had a photographic memory that was never developed.
13. The short fortuneteller who escaped from prison: a small medium at large.
14. Those who get too big for their britches will be exposed in the end.
15. When you've seen one shopping center you've seen a mall.
16. If you jump off a Paris bridge, you are in Seine.
17. When she saw her first strands of gray hair, she thought she'd dye.
18. Santa's helpers are subordinate clauses.
19. Acupuncture: a jab well done.
20. Marathon runners with bad shoes suffer the agony of de feet.
21. The roundest knight at king Arthur's round table was Sir Cumference. He acquired his size from too much pi.
22. I thought I saw an eye doctor on an Alaskan island, but it turned out to be an optical Aleutian.
23. She was only a whisky maker, but he loved her still.
24. A rubber band pistol was confiscated from algebra class because it was a weapon of math disruption.
25. No matter how much you push the envelope, it'll still be stationery.
26. A dog gave birth to puppies near the road and was cited for littering.
27. Two silk worms had a race. They ended up in a tie.
28. A hole has been found in the nudist camp wall. The police are looking into it.
29. Atheism is a non-prophet organization.
30. I wondered why the baseball kept getting bigger. Then it hit me.
31. A sign on the lawn at a drug rehab center said: 'Keep off the Grass.'
32. A small boy swallowed some coins and was taken to a hospital. When his grandmother telephoned to ask how he was, a nurse said 'No change yet.'
33. The soldier who survived mustard gas and pepper spray is now a seasoned veteran.
34. Don't join dangerous cults: practice safe sects.

For All You Lexophiles (Lovers Of Words)...

Possible Change

In efforts by the FCC that were initiated by the American Radio Relay League have begun the process to alter the newest Amateur Radio band. The shared 60-Meter band is the only Ham Radio band that allocated specific channeled communication. This was mandated because of the large number of users in this allocation within the HF spectrum. While the secondary status remains as it was initially granted, there is a collection of possible changes.

On May 8, 2010 the FCC while acting on a 2006 *Petition for Rulemaking* filed by the ARRL [<http://fjallfoss.fcc.gov/ecfs/document/view?id=6518527442>], the commission issued a *Notice of Proposed Rule Making (NPRM)*, ET Docket No 10-98

[http://hraunfoss.fcc.gov/edocs_public/attachmatch/FCC-10-76A1.pdf]. This change notice will modify the rules that govern amateurs' secondary use of five channels in the 5 MHz frequency range known as 60 meters.

The following is an explanation of this planned effort:

The proposed changes would substitute a new channel for one that is seldom available because of occupancy by the fixed service, which is primary in this range. Also proposed is an increase in power from 50 to 100 W effective radiated power and the addition of CW, PSK31 and PACTOR-III modes with provisions to ensure that such operations would be compatible with the primary service.

In commenting on this action, the ARRL's Chief Executive Office, David Sumner, K1ZZ, stated, "The ARRL is pleased that the Commission has opened this proceeding to increase the usefulness of the limited 5 MHz Amateur Service allocation. We are gratified that the Commission and the NTIA agree that the responsible manner in which amateurs have been using the five USB channels warrants some expansion of privileges so that the Amateur Service can be even better prepared for service to the public."

Background

By reviewing the brief history of the 60-meter band, readers of the *eDipole* who either do not yet use this band or have no fresh knowledge about this band can become familiar of this part of the Spectrum through this historical background.

The 60 meter band is part of the larger 5060-5450 kHz band that is allocated to the fixed service on a primary basis for Federal and non-Federal use, and to the mobile (except aeronautical mobile service) on a secondary basis for Federal and non-Federal use.

Per footnote US381 to the Allocation Table, this makes five frequencies in this band -- 5332 kHz, 5348 kHz, 5368 kHz, 5373 kHz and 5405 kHz -- available to the Amateur Service on a secondary basis. In addition, footnote US340 authorizes Federal and non-Federal maritime and aeronautical mobile stations to use the 2-30 MHz band (which includes the 60 meter band) for measuring the quality of reception on radio channels on a non-interference basis; however, actual communication by these stations is limited to frequencies specifically allocated to these services.

In 2003, the FCC added the Amateur Service secondary allocation to this band after determining that such frequencies could be useful to the Amateur Radio Service for completing disaster communications links at times when existing frequencies in the 80, 75 and 40 meter bands are not available due to ionospheric conditions.

The FCC concluded "that such an allocation represented the best compromise available to give the Amateur Radio Service access to new spectrum for a wide range of radio communications, while assuring that incumbent operations are protected."

At the request of the National Telecommunications and Information Administration (NTIA) [<http://www.ntia.doc.gov/>], the FCC restricted the use of these five channels to single sideband suppressed carrier voice using only the upper sideband transmission,

and a maximum effective radiated power (ERP) of 50 W peak envelope power (PEP). The Commission adopted these operating restrictions to decrease the interference potential between amateur stations and federal stations.

On October 20, 2006, ARRL filed a *Petition for Rulemaking* [<http://fjallfoss.fcc.gov/ecfs/document/view?id=6518527442>], seeking certain modifications to the rules governing Amateur Radio use of the 60-meter band. Seven weeks later, the FCC issued a *Public Notice*

[<http://fjallfoss.fcc.gov/ecfs/document/view?id=6518709669>] to seek comments on the ARRL's *Petition*, but none were received. In its *Petition*, the ARRL requested that the FCC make three modifications to the existing rules governing Amateur Radio use of the 60 meter band, specifically Section 2.106 [http://edocket.access.gpo.gov/cfr_2002/oct_qtr/pdf/47cfr2.106.pdf], footnote US381 of the Rule and Section 97.303 [http://edocket.access.gpo.gov/cfr_2002/oct_qtr/pdf/47cfr97.303.pdf] of the Rules, in order to increase the flexibility in the use of the band and to facilitate emergency communications provided by the Amateur Radio Service:

One of the available channels, 5368 kHz, be replaced with 5358.5 kHz.

Three additional emission designators -- 150HA1A, 60H0J2B and 2K80J2D -- be authorized in the 60 meter band, provided that the operators using these modes utilize great care to limit the length of transmissions so as to avoid interference with Federal operations.

The maximum ERP on channels in the 60 meter band be increased from 50 to 100 W PEP, provided that amateurs utilize Voice-Operated Transmit (VOX) while in the single sideband emission mode, so as to permit the amateur operator to hear an attempt by another station, which may be a Federal user, to utilize the channel.

The ARRL *Petition* argued that a successful history of sharing with Federal

users -- together with its amateurs' strong desire to improve Amateur Service use of the band -- merited a grant of greater flexibility in the use of these frequencies: "Because of strong admonitions provided by ARRL to Amateur Radio operators relative to their obligations vis-à-vis Federal agency primary use of and access to these few channels, the access provided for the Amateur Service with the assistance of NTIA in the past three years has been successful without qualification. Neither ARRL, nor, apparently NTIA, is aware of a single reported instance of interference to a Federal user by a radio amateur operating at 5 MHz to date."

The proposals contained in the ARRL *Petition* were based on these discussions and a May 12, 2006 letter from the NTIA, indicating that it would "look favorably" on the above-described modifications should ARRL choose to pursue rule changes with the Commission.

On March 11, 2010, the FCC adopted a *Notice of Proposed Rule Making and Order* [<http://www.arrl.org/news/fcc-proposes-to-eliminate-spread-spectrum-apc-requirement-reduce-spread-spectrum-power-limit-cleans>] that made certain amendments to correct the Amateur Service rules and to conform the rules to prior Commission decisions. The FCC's proposals are based on the current rules, as modified by that action.

Us Not Yet

January 2010 ushered in a new operating privilege for Canadian Amateur Radio operators. It was then that our northern neighbors began operation on 2200 meters. This band has not yet become an operating area for United States Ham Radio operators. For many U.S. operators, they do not even have equipment that can receive the Canadian operator using the new 135.7-137.8 kHz allocation.

The creative Canadian Ham Radio operators lost little time in using this new area of operation. Scott Tilley, VE7TIL, of Roberts Creek, British

Columbia, and John Gibbs, VE7BDQ, of Delta, British Columbia, completed the first official Canadian two-way 2200 meter QSO on April 24.

Using CW, the Canadian amateurs reported strong signals during daylight QSO on 137.100 kHz. Roberts Creek and Delta are about 41 miles apart. Lacking commercial equipment, these two pioneer operators began this quest by homebrewing equipment. Gibbs used a homebrew tube transverter at 100 W output. This power was fed to a short top-loaded backyard wire vertical. His communication partner, Tilley, was running 400 W from a homebrew FET transmitter into a 60 foot top-loaded wire antenna.

Tilley told interested ARRL officials, "As well as heralding the arrival of a new 'top band,' the QSO demonstrates that even amateurs located in typically small city-sized lots can enjoy the challenges that 2200 meters has to offer. Hopefully many other Canadian amateurs will soon be melting solder to join the fun on our new band!"

Interested readers of the *eDipole* can obtain information on Canadian 2200 meter activity by visiting Tilley's Web site [<http://www3.telus.net/sthed/argo/>] as well as at the VE7SL Radio Notebook Web site [<http://members.shaw.ca/ve7sl/136.html>].

Amateur Radio operators in the United States do not have an allocation in the LF frequency segment of the radio spectrum (30-300 kHz). This does not mean there is no interest in this region.

This interest has been fanned by an FCC action. The Commission has licensed a few experimental stations at 136-138 kHz. In addition to Canada, several European countries have opened up this small RF space for Amateur CW and digital communications.

Before rushing out to build a monitoring antenna, give some special thought. First, remember a half-wave dipole at this frequency is 3,416 feet long. This type of antenna is not the common antenna of choice. Most experimenters use short, inefficient antennas with very large loading coils.

Propagation in this RF region is by surface wave, using vertically polarized antennas. As students of radio propagation and persons interested in the military's use of Low Frequency communication now, radio waves in this part of the spectrum follow the surface of the Earth. Following a parallel to the nearby frequencies in the AM

broadcast band, to increase communications over greater distance, an operator needs to increase power.

In ITU region 1 and 3, broadcasters use the 150 to 280 kHz region to cover entire countries. While theoretically possible, the large number of high power European broadcasters using these LF frequencies are only occasionally heard on the United States east coast. Timing, just after sunset, and a good external antenna are a must for the reception of these European long wave broadcasters.

An LF band does exist in the US, but it's not an Amateur Radio allocation. A lot of "lowfer" (Low Frequency Experimental Radio) activity occurs in the 160 to 190-kHz region--the so-called 1750-meter band. These operations are authorized under Part 15 of the FCC regulations. Currently, one does not need a license to operate on 1750 meters. As these operators have learned, there are severe legal restrictions on this form of operation. First, these operators can't run more than 1 W *input* to the transmitter's final stage, and the entire length of the transmission line and antenna combined cannot exceed 15 meters (approximately 50 feet).

That's not much antenna for a band where a half-wavelength antenna would be more than one-half mile long. Amateur Radio operators who operate under these restrictions just use the call sign suffix of their Ham Radio licenses when they operate on 1750 meters.

Right now, a few hundred experimenters occupy the band in the US, and several of them have set up CW beacons on 1750 meters, with many operating between 180 and 190 kHz. When doing DX listening in this RF area, a good receiving antenna and a sensitive receiver capable of monitoring these frequencies. While transmissions are currently made from homebrewed apparatus, reports say commercial equipment is coming soon.

Vigilance Pays Rewards

Thanks to the reporting by Chuck Skolaut, K0BOG, ARRL Monitoring System/Intruder Watch Coordinator, it has been learned that there is good news about Radio Kuwait and that nation's use of both **7150** and **7190** kHz frequencies.

What was unearthed in reporting this intrusion was the simple truth that the IARU Region 1 Monitoring System is actively vigilant in monitoring the Amateur Radio bands for intruders.

This enthusiastic effort was well led by Coordinators Wolf Hadel, DK2OM, and Uli Bihlmayer, DJ9KR. 21st Century tools were enlisted to aid them in their work. Last year, they initiated an online reporting system via intruderalert@iaru-rl.org.

The report from the ARRL added the following details:

“On April 12, Bihlmayer first observed a shortwave station on 7150 and 7190 and alerted the monitoring group to listen and send reports to their appropriate authorities. Through combined efforts, he identified the station as Radio Kuwait.”

This League report added:

“Once the station was identified, Bihlmayer immediately informed the German Federal Net Agency (Bundesnetzagentur) to monitor the QRGs and to send an official complaint to KWT. Also he sent a fax and an e-mail to the Embassy of KWT in Berlin and e-mails to Radio Kuwait and to the Ministry of Telecoms in Kuwait.”

The ARRL reports included the following procedural data:

Bihlmayer invited all participating IARU Intruder Watches to inform their telecom authorities and ask them to send observations to KWT. One very important asset is that the IARU Region 1 Monitoring System has a coordinator in the State of Kuwait, Faisal Al-Ajmi, 9K2RR. He contacted Radio Kuwait and informed them of the many amateurs asking them to cease transmissions inside our bands.

On April 19, Al-Ajmi sent word that he was very pleased to inform everyone that Al-Ajmi sent word that he was very pleased to inform everyone that the General Manager of Engineering for Kuwait Radio had informed him that transmissions on both 7150 and 7190 had been suspended. Al-Ajmi went on to say that this is another battle won against intruders to the 40 meter amateur band. As usual, the Region 1

Monitoring System will keep monitoring the band for any other complaints.

From various sources it was learned the Amateur Radio Operators in all three IARU regions expressed their thanks and congratulations to the IARU Region 1 Monitoring System. That group’s prompt and excellent work has been credited in helping to maintain the integrity of our bands worldwide.

Bihlmayer also credited the online reporting capabilities as a tremendous help in this special effort.

Gem City Attracts Hams

What began in 1952 has become such a success that the original planners would never have believed the numbers of international Amateur Radio operators, vendors, and private sellers would make the annual trek to Dayton, a city that calls itself the “Gem City.”

In what is believed to have been the early 1950s, John Willig, W8ACE, asked the Dayton Amateur Radio Association (DARA) to sponsor a HAM Convention. He was turned down.

While he had not backing, his planning continued. What he wanted was an event that would be remember, a quality affair. As a draw and setting his dream event apart from other Amateur Radio gathering were several ideas. He wanted to include speakers and offer prizes.

Patience and tenacity prevailed.

John Willig and his new concept captured the attention of the then newly elected president of the DARA Frank Schwab, W8OK (formerly W8YCP). These two foresighted Amateur Radio operators forged ahead. Selling this concept became their goal. Following a successful meeting with the DARA board, this group allocated \$100 to help make this dream come true.

This beginning effort began the historical support of the Hamvention® in 1952. Each year there has been something new to attract not only Ohio, Indiana, and Kentucky Amateur Radio operators, but also Ham operators from throughout the USA. For many years, it has had an international flavor

During this growth it did not take long for this gathering to become formerly known as the Dayton

Hamvention®. The acceptance of both the concept and the format soon fostered the name to become a registered trademark.

Adding to the international appeal and identity, there was a **Special Event Station** at this year's Dayton Hamvention®. Using the call, W8BI, this Special Event Station W8BI using a Flex Radio 5000A and an ICOM IC-7200, was active on the following frequencies (+/- QRM):

40M - 7.227/7.050
20M - 14.270/14.050
10M - 28.470/28.050
43.775/448.775 ILRP Node 4267

Unlike some conventions, the Dayton Hamvention® began, not with a whimper, but with a bang. The Friday event began with outdoor exhibits at 8 a.m. and the inside exhibits welcomed visitors at 9 a.m.

First time attendees were pleased with the organization that supported both the transportation to this well-attended, three-day Amateur Radio experience.

In addition to the display of the many prizes, the hourly drawings were a hit with all visitors. This first day officially ended at 6 p.m., but this was not the end of 'eyeball QSOs.'

The Saturday events followed the same starting times. The 'full speed ahead' pace of the inside all exhibits continued to draw large numbers. An additional indoor feature was that more convention based. There were numbers of scheduled activities, as well as forums, and Amateur Radio exams.

While exhibit hours in both the indoor and outdoor venues ended at 5 p.m. on Saturday, likened to Friday, the social aspects continued.

Sunday, while the last day of this year's Dayton Hamvention®, that day's pace was not lessened. While the displays continued the staggered opening, they shared the targeted ending of this active three-day event. When activities ended at 1 p.m., it was time for a rest. The exhibitors and visitors all began their treks homeward. During this last day, there were continued forums and other, well-planned activities and the last of the hourly prize drawing.

With this year's premier Amateur Radio event now history, it is time to plan for next year. The 2011 Dayton Hamvention® will be held on May 20-21. If readers of the *eDipole* are true planner,

they should also add to their long range plans, the dates of May 18-20, 2012 and May 17-19, 2013

Some ham radio enthusiasts journey across the country or around the globe to attend the Dayton Hamvention®. In 2007, one special guest traveled all the way from outer space.

In that year, NASA space shuttle veteran and International Space Station Expedition 12 commander Bill McArthur was on hand to greet visitors at Hara Arena Friday. During his six months on the space station, McArthur, NA1SS, Amateur Radio contacts saw him communicating with people from all 50 states and seven continents.

From the Eyes of the Local Media – Current

As an introduction to the average reader, the Dayton Daily News, a regional newspaper, provided some meaningful introductory information about the relationships between technology, personal involvement, and public service prior to the heavy press coverage for this year's Dayton Hamvention®.

This coverage began with a report of the Amateur Radio efforts surrounding the events of Hurricane Katrina after it devastated the Gulf Coast in 2005. This pre-Hamvention® feature stressed that it was Amateur Radio operators who were the first and only sources of communication for rescue teams in the 140 square miles of Katrina's destruction.

This pre-event feature also provided an historical overview of this annual, international gathering. This story cited that Dayton's annual Hamvention® reached its peak in 1993 with 33,000 attendees.

In a display of realism, this story stated that competition from the Internet as a worldwide communication system has cut into the number of hobbyists. In an example of fair reporting, the realism of today's status of Amateur Radio was provided by a representative of this annual Mecca of the Amateur Radio world. The Dayton newspaper quoted Mike Kalter as saying Amateur Radio is "definitely holding its own." Kalter also added, "People young and old still like to tinker with radio technology and speak to anyone anywhere in the world."

From the Eyes of the Local Media – History

The Metropolitan Dayton Amateur Radio operators have established a meaningful bond with the media of that area. This bond was demonstrated by a story line in that region's Dayton Daily News, "Beavercreek man finally gets his amateur radio license."

This story was more than a simple announcement of a meaningful accomplishment. It began with a concept fully understood by many of the newer Amateur Radio operators throughout the world. The elimination of a Morse Code requirement did indeed open the gates to our hobby. This was demonstrated in the Gem City area when a suburban Dayton Ham Radio operator was interviewed for a story for the Dayton Daily News story.

Bill Watson of nearby Beavercreek very openly stated, "My inability to make friends with the requirement that I learn Morse code remained a stumbling block. I could pass the theory test but not the code test."

With the Code hurdle eliminated, this enthusiastic Ham Radio want-to-be passed all three license tests in about 18 months and then became a member of the Greene County Amateur Radio Emergency Service.

Bill Watson, K8WEW, demonstrated his ongoing involvement in emergency communications operations when he volunteered, "My best personal experience came from my participation in the flu pandemic exercise that was held in various counties in Ohio on three consecutive Tuesdays in February 2008."

"This was a fascinating experience and a very realistic one considering the experiences of the 1918 flu problem," said Watson. He also "pays back" by instructing others as they prepare to take their technician-level amateur radio exam.

In another example of Amateur Radio capturing the media occurred with members of the Dayton Amateur Radio Association began their cooperative communication watch following the January, 12 Haitian earthquake.

The following are example of the reporting of these Amateur Radio activities:

Working three- to four-hour volunteer shifts, 30 members have staffed their communication center on Bellefontaine Road 24 hours a day since, monitoring broadcasts in, out of and about Haiti.

"We've logged 450 man hours as of this morning," member Dave Kalter of Kettering said Wednesday, Jan. 20. He had stayed at the building for three days and nights.

The club's station (call letters W8BI) has been in intermittent contact with a Haitian missionary who calls in on a radio hooked up to a car battery. "He quickly ran out of fuel for his gasoline-powered generator," member Jim Simpson said.

They heard from a group of HAM radio operators from the Dominican Republic who were forced to turn back after being confronted for their belongings when they tried to cross the border into Haiti last week.

"We know they're OK and made it home safely. They're planning to make another attempt to get in and establish radio when things stabilize," Kalter said.

But so far, their broadcasts and those relayed by other stations into the hardest-hit areas have remained unanswered. On Wednesday, member Don Chelman was the person on duty, logging transmissions.

Shawna Collins of Kettering, who has taken her turns listening for Morse code and voices over the target frequencies, said silence won't deter the club's members, who work the same way during local emergencies such as the severe 2008 wind storm.

"You never know when that first person is going to get a radio and establish contact. When that happens, it will all be worth it," she said.

"We're also monitoring SATERN (the Salvation Army Team Emergency Radio Network) and the maritime mobile net, which includes all of the ships in the Caribbean area," said Don DuBon of Kettering.

He said member Joe Brassard, whose fluency in the French language has helped with translations of the Creole spoken on Haiti, has tracked down a friend he went to school with who is working on the island.

"The time will come when we will be called on to pass health and welfare messages to and from loved ones here. Until then, we will be on the air and listening,"

Simpson said. “We will stand down after phones and other forms of communications are restored.”

American Radio Relay League Activities at the Dayton Hamvention®



ARRL EXPO 2010

ARRL EXPO is a showcase of ARRL exhibits, activities and program representatives—celebrating the very best of Amateur Radio. The visitors from the League extended an visitation invitation to attendees at Dayton Hamvention®.

The ARRL, the national association for Amateur Radio, truly lived up to that banner statement. The strong American Radio Relay League presence was a must visit location at this year's Dayton Hamvention®. The League's stand out location was anchored with the theme of ARRL EXPO 2010.

The multiple booth exhibit was a showcase of ARRL activities and programs. The ARRL representatives very efficiently shared ways to celebrate the best of our communication hobby.

For many visitors, the ARRL Store provided an opportunity to have a hands-on and eye-scanning chance to see the many popular ARRL publications. Just like other vendors at this international gathering of Amateur Radio operators and suppliers, the League did some very creative merchandising.

In a timely offering, the League had available a meaningful collection of supplies for the upcoming 2010 Field Day, June 26-27.

Following a growing interest in a renewal of a once-popular element of Ham Radio, the ARRL parroted a theme revisited by Dennis Silage, K3DS. His visit to the Marple Newtown Amateur Radio

Club and other area groups helped area licensed operators build a simple, but effective transceiver.

The Dayton experience provided visitors with an opportunity to enjoy the fun of homebrewing. Under the watchful eyes of a team of instructors, the participants experienced the rewards of identification of the electronic components, obtained a familiarity with circuit board, and polished their soldering skills.

The ARRL in sharing the importance of local Amateur Radio clubs, provided visitors to the League's site with take-home resources for the “group back at home.” In a companion outreach, the Newington visitors to this year's Dayton Hamvention® proudly shared the many feature of the new Web presence that has been initiated by the ARRL.

This unique venue provided visitors with meaningful information about special ARRL services. Personnel from the ARRL DXCC Branch provided both applications to this award category as well as checking DX cards.

In a companion effort, representatives from Logbook of the World provided demonstrations and answered questions about this new logging system. For readers of the *eDipole* who were not in Dayton this year, the ARRL invites MNARClub members to visit www.arrl.org/lotw

Many visitors to the ARRL's EXPO 2010 were provided an opportunity to learn more about our national voice. Shared areas of League involvement and interests included the ARRL Development and ARRL Foundation, our national group's legislative agenda, the expanded program that exists between Amateur Radio and scouting, and the special community outreach provided by Ham Radio and emergency communications.

In a forward reflection, information about the 2011 ARRL National Convention at Ham-Com in Plano Texas was made available. A representative from that region's Visitors and Convention Bureau provided detailed information to visitors who may be planning to attend this June 10-11, 2011 gathering.

Another Power Source

A long-standing dream of most Amateur Radio operators is to have an alternate energy source. One

of the often-cited sources of renewable energy is that provided by the wind. For many, this may seem as a new way of generating electricity. Rural America captured this energy several generations ago. While Americans are attempting to provide alternate, non-carbon forms of electric generation, many of them come with a downside. One of these alternate power sources is the wind. This increasingly popular energy source has its own negatives –its lack of total reliability. Rarely is the wind always available and this “hoped-for-source,” does not always have the required velocity. The wind can be either too slow or too fast.

Yet, this source is still being strongly considered as the dreamed up alternative energy source.

When viewed from an economical standpoint, wind is thought to be free energy. What about that old, handed-down saying, “Nothing in this world is free”.

A drive along many rural roads will show relics of the earlier form of wind energy uses. One of the wind uses was to bring water up from the well for both barn and kitchen use. Later, this source of energy was used to generate electricity. This electrical use began nearly a hundred years ago.

The use of wind power of water pumping would often result in more than one windmill. Placing a water pumping windmill near the feeding areas of America’s cattle industry often meant there could be multiple wind-powered pumping towers in a farmer’s fields.

One historical economist volunteered that the livestock industry would probably look very different and the meat prices much higher if it were not for the hundreds of thousands of still functioning windmill driven water well pumps spread out across the nation. These privately owned sources of water are so dependable.

Two concepts helped in the popularity of using the whirling windmill to provide electricity for lighting the house, barn, and the barnyard. One of these concepts was the use of ‘Universal’ AC/DC motors. This made simple the use of this electricity to some appliances and food processing equipment.

The first obstacle was the understandable limits. The biggest limit was the availability of wind. Another was the limits of the generator’s power rating.

The development of a dependable storage battery became the other valued contribution to this

wind source of electricity. These batteries became very popular and were of the lead/acid type. The casings were rectangular, cast of thick glass, about the size of a beer six-pack, and with the plates and electrodes mounted on a phenolic cover.

These batteries were not without their own work demands. While there were the chores of keeping their liquid levels up with distilled water, and charged (from the windmills), they eliminated dependence on the wind blowing when the family wanted to do their evening Bible reading, letter writing, or work on the farm accounts.

Like much of today’s and yesterday’s farming, nature could be both a friend and an enemy. If there was no wind for several days and the batteries were dead, the farmer would have to rely upon kerosene or benzene lamps to provide their early morning and late evening lighting.

This same alternative exists when today’s normally dependable electricity source fails.

Two or three bladed airplane-like propellers drive today’s electric-generating windmills. This differs from the water pumping windmills and the generating windmills of an earlier age.



Today’s wind powered turbine devices



The older, original type windmill device

These devices incorporated many large vanes, all fastened together, set at an angle, in a circle around and perpendicular to the drive shaft.

There is ongoing experimentation for other forms of wind-capturing methods. There is a trend, for small electric ‘vertical’ windmills, toward a smaller, less dangerous design of the rotary element. Another consideration points to a rotor shaped like a modified ‘squirrel cage’ centrifugal fan rotor. This form of wind capture is shaped similarly to old fashioned water wheels, with the vanes mounted parallel to the shaft between two disks and the wind is directed to the outer edge. This wind capture then creates torque on a vertical shaft, driving the generator.

Another modern concept uses a magnetic levitated wind-capturing device that has a reduction in the friction from normal bearing type devices.



Other Discussions

There is an ongoing discussion about the direction of the direction of rotation. This discussion has one of its roots in a NASA study that sought to seek the source of Atlantic Ocean hurricanes. This study showed these storms are probably ‘bred’ as small counterclockwise (CCW when viewed from above)

Coriolis vortices’ [water spirals CCW down the drain in the northern hemisphere and clockwise (CW) in the Southern Hemisphere] as the winds

moved down the western slopes of a mountain range in West Africa.

This air movement is then carried over the Atlantic where many merge together and pick up thermal energy, which gets transformed to rotational kinetic energy. If the temperature gradient is right, they continue to grow and merge together to become giant hurricanes, all spinning in a counterclockwise direction.

How does the cost of electrical power from wind turbines compare to that supplied from other means? A current comparison of the cost of producing electricity by various systems is shown below:

EXPECTED COSTS OF PRODUCING ELECTRICAL POWER \$ PER MW-Hr. (Before Subsidies)

Method	High	Low	Likely
Ocean Wave Action	510	260	380
Solar PV, Crystal Silicon	420	210	290
Solar PV, Thin-Film	290	160	210
Wind, Off Shore	250	130	160
Biomass	210	70	100
Wind, On Shore	110	60	90
Geothermal	80	50	75
Gas, Landfill	90	45	60
Gas, Natural	--	--	55
Coal	--	--	55

The FCC Has Said

One of the frequent topics that may be stretched is the ability to remember to properly identify during Amateur Radio conversations. Several years ago, Tim Timmons, W3TXN SK would be chided because he would interject the phrase, “To identify, this is W3TXN.

Following one of his identification statements, someone abruptly broke into the dialog and scolded Tim. He was told by the stranger that by adding the phrase, “To identify,” Tim was being redundant.

Thoughtful Tim immediately responded, “I was adding this phrase to help the person I am talking with to remember that he was about to surpass the Part 97 time limit.”

Sometimes people are chided for being helpful.

In an identification topic, the American Radio Relay League (ARRL) recently shared a FCC action. In mid April the FCC denied a petition for Reconsideration that had asked for changes of how often Amateur Radio operators must identify.

The follow is both a history and a collection of FCC explanations as made available by the ARRL:

On May 18, the FCC denied a *Petition for Reconsideration*

[http://hraunfoss.fcc.gov/edocs_public/attachmat/ch/DA-10-879A1.pdf] filed by Glen Zook, K9STH, that asked for changes in Part 97 regarding how often amateurs must identify themselves on the air. This action follows the Commission's denial of Zook's April 2009 *Petition for Rulemaking* requesting that the Commission amend Section 97.119(a) [http://edocket.access.gpo.gov/cfr_2002/octqtr/pdf/47cfr97.119.pdf] to change how often amateur stations must identify themselves, specifically "to require that an amateur station transmit its call sign during the first transmission of any communication or series of transmissions, and to allow an amateur station to not transmit its call sign at the end of a communication when the communication or series of transmissions lasts less than three minutes."

In denying Zook's 2009 *Petition*, the FCC noted that in May 2006, Zook had filed another *Petition* requesting that the Commission amend Section 97.119(a) to require that call signs be transmitted at the beginning of each transmission or series of transmissions: "In response, the Commission received approximately one hundred comments, generally opposing the petition. In 2007, the Wireless Telecommunications Bureau's Mobility Division dismissed this petition, concluding that the requested rule changes were not necessary and were not supported by the Amateur Radio community, and noting that the commenters believed that the current station identification rule properly balances the burden of requiring the station to transmit its call sign with the convenience of those receiving the transmissions to determine the identity of the station making the transmissions."

The FCC said that Zook's 2009 request "does not assert or demonstrate that circumstances have changed since 2007 with respect to the adequacy of the current station identification rule," and the FCC concluded that it does not present grounds for the Commission to propose amending Section 97.119(a): "Your current proposal, like your previous petition,

does not demonstrate that revising the station identification requirement as requested would address the concern that many Amateur Radio operators do not identify their station timely or at all, or that the problem of station operators not complying with the present rule cannot be addressed by enforcement of the present rule rather than a rule change."

After the FCC denied Zook's *Petition*, he filed a *Petition for Reconsideration* two days later. The Commission noted in its May 2010 action that it had dismissed Zook's 2009 *Petition* "on the grounds that it did not present evidence meriting a rule change, because it did not assert or demonstrate that circumstances had changed since the Division dismissed a previous petition that you filed proposing to amend Section 97.119(a) to incorporate certain portions of the Commission's former station identification rule," but that in his *Petition for Reconsideration*, Zook "disagree[d] that circumstances have not changed since 2007, arguing that your 2009 petition proposed narrower changes than your 2006 petition, and again expressing the concern that many amateur operators do not properly identify their communications."

In concluding their denial of Zook's *Petition for Reconsideration*, the FCC concluded, "Like your previous petitions, [this current petition] does not demonstrate that the current station identification rule is inadequate or that revising the station identification requirement as requested would address the concern that many amateur radio operators do not identify their station timely or at all. We also note that, in response to your 2006 petition, commenters believed that the current station identification rule properly balances the burden of requiring the station to transmit its call sign with the convenience of those receiving the transmissions to determine the identity of the station making the transmissions."

It Will Be Returning

As this issue of the *eDipole* was being prepared for transmission to Tom Tenaglia, K3TAT, for his mastery of desktop publishing, it was learned the American Radio Relay League is resuscitating its ARRL AUDIO NEWS.

This bit of news is a welcomed in two ways. One is the return after a four-month absence. Two is the hoped-for future return to the availability of this service to telephone users.

The full ARRL announcement stated:

After a hiatus of nearly four months, the *ARRL Audio News* is scheduled to return Thursday, May 27. With the advent of the new ARRL Web site, we have had to make some changes in the way the *Audio News* is presented. For the time being, it will only be available as one mp3 file; we will no longer be breaking it up into segments. In addition, we will not be able to offer the *Audio News* via telephone, but that feature may return in the future. Beginning May 27, you can find the *ARRL Audio News* on the ARRL Web site.

Changes Because of Changes

The announcement of changes in question collection for both Technician and Extra Class examinations was the result of a rules change as well as a proposed amending of rules. The following is the text of this announcement:

The Question Pool Committee of the National Conference of Volunteer Examiner Coordinators announced the withdrawal of two questions from the Technician class pool and two questions from the Extra class pool. Volunteer Examiner Coordinators (VECs) and Volunteer Examiners (VEs) must take action to remove these questions from use by July 1, 2010. Due to a rules change and pending action by the FCC, questions T2C02 and T2C03 from the July 2010 Technician Pool and questions E1C04 and E1C05 from the July 2008 Extra Pool may not be used in examinations after June 30.

The two Technician questions dealt with emergency communications and Section 97.113 of the FCC's rules governing Amateur Radio. This announcement explained the change:

In March, the Commission released a *Notice of Proposed Rule Making (NPRM)*, WP Docket No 10-72 [http://hraunfoss.fcc.gov/edocs_public/attachmatch/FCC-10-45A1.pdf], that proposes to amend the rules to provide that, under certain limited conditions, Amateur Radio operators may transmit messages during emergency and disaster preparedness drills, regardless of whether the operators are employees of entities participating in the drill.

In explaining this topic, the FCC stated:

“Adoption of the *NPRM* appears more likely than not, abolishing the temporary waiver

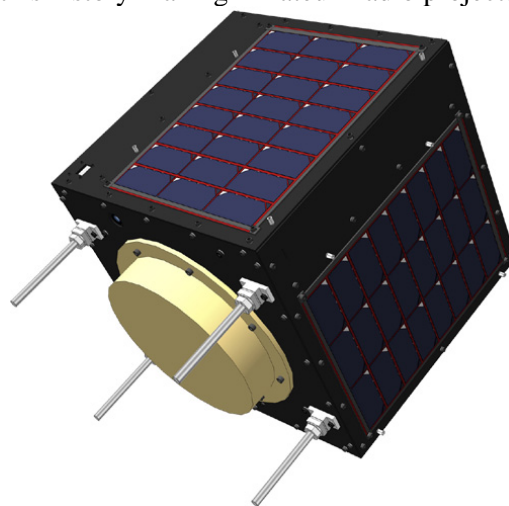
[needed for government-sponsored emergency communication drills] (T2C02) and making T2C03 an invalid question,” the QPC said in a statement appearing on the NCVETC Web site. “Therefore, we feel it is best to withdraw these two questions now to avoid the possible inclusion of invalid information in training material now being prepared.”

This rules change announcement added that the two Extra questions dealt with third party restrictions as defined in 97.109(e). The FCC has since deleted this rule, so the information is no longer applicable to the Amateur Service.

Out of This World

Thanks to the planned efforts of a Japanese group of University students, Amateur Radio operators worldwide can now boast that our hobby is truly, “out of this world. This claim is fostered by the mission of a Japanese Amateur Radio satellite UNITEC-1 is the world first type of deep space satellite of the university development. It rides together with the satellite of JAXA, named Planet-C. These space-bound objects are flying toward Venus.

The following is a news report sharing the news about this history-making Amateur Radio project...



The Japanese UNITEC-1 space probe has been successfully launched and is now beginning its mission to the planet Venus. What makes this mission of particular interest to amateurs is the fact that the UNITEC engineers have added a 5 GHz Amateur Radio beacon to the spacecraft and they are encouraging hams to attempt to receive it.

On May 21 Japanese ground stations reported receiving the CW and FSK beacons (call sign JQ1ZUN) at a distance of about 300,000 km. They measured the beacon frequency at 5839.91 MHz.