



W8LKY Field Day Effort dedicated to KE8VE

W8LKY FD results

Band	2009 (3A)		2008 (3A)	
	CW	SSB	CW	SSB
160		2	0	0
80		120	0	172
40	79	256	151	146
20	182	131	228	
15	95	19		83
10		14	2	105
6	3	38		27
Total CW/Phone	359	580	381	533
Total Q's	939		914	
100% Emergency Power	X		X	
Media Publicity	X		X	
Set-up in Public Place	X		X	
Information Booth	X		X	
NTS message to SM/SEC	X			
W1AW Message	X			
Visit by served agency	X		X	
Web submission	X		X	
Educational activity	X			
Bonus points	1050		750	
Claimed Score	3646 pts		3340 pts	

It was decided at the July meeting that this years Field Day effort be dedicated to the memory of Larry, KE8VE. As you look at the table to the left, it's obvious that we had a missing operator at the 80 meter station. Larry would work the "night shift", from around midnight till dawn. His absence was felt in many ways this year.

The day before Field Day, we were also notified of the passing of George Anto-

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Meeting Announcement

Our next meeting will be on Wednesday, August 5th, at the Alliance Community Hospital, in the Cafe conference room.

Meetings begin at 7:30 PM.

Before the meeting, you're welcome to join us at Don Pancho's Tex-Mex Café (2105 W. State St.). We meet there at 6 PM, for food, & fellowship

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Editor

John Myers, KD8MQ
(See above)

Ramblings

By John, KD8MQ

Hi everyone, it's been a hectic month, so this column, like the newsletter is a bit longer than usual.

First of all, you'll notice that this issue is a tad late. This is my fault. The week before deadline, I had to revamp a commercial website which of course took top priority. At the same time, I was preparing for presentation to the Cuyahoga Falls club.

My plan was to dig in & finish the newsletter over the weekend. But, then came the worst summer cold I've had in a while. So, here it is Sunday evening, the ZB is 30% finished, I have a lot of things to add, and I'm just now sitting down to work on it. If all goes well, you'll be reading this on Wednesday.

I received an e-mail recently from Bob, K8RLS. He is unable to continue doing the calendar for the Zero Beat. Bob has been supplying the calendar for the last several years, and has made mine, as well as Larry, KE8VE's life a lot easier. I'd like to take this opportunity to thank Bob for his service to the Zero Beat.

In case you missed it, this years Field Day was dedicated to the memory of Larry, KE8VE, who passed away on April 19th.

The time is coming up for the Carnation Triathlon, and the Castle Run. Operators will be needed for both events Look for more info elsewhere in the ZB.

I had a few more things to discuss here, but they can wait till next month. See you at the meeting. 73 DE KD8MQ

Meetings

The Alliance Amateur Radio Club meets on the First Wednesday of every month. Check the meeting announcement on page 1, for the location.

Talk-in is on 145.37 ®.

Meetings begin at 7:30 PM.

Visitors are always welcome.

Nets

Thursday is our "net night," with the following nets held:

Ten meters

CW @ 8PM on 28.400 MHz

SSB @ 8:30PM on 28.400 MHz

2 meters

9 PM on 145.37 MHz

The Homeland security Net meets on the last Tuesday of the month, at 8:00 PM, on 147.51 simplex

Internet

Web: www.w8lky.org

E-mail: W8lky@w8lky.org

Newsletter Information

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You can submit material to the Zero Beat via e-mail to kd8mq@neo.rr.com

July Meeting Minutes

July 1, 2009

The regular meeting of the Alliance Amateur Radio Club was held on July 1, 2009 at 7:30 PM at Alliance Community Hospital. President Frank Sanor, WA8WHP presided. The pledge of allegiance was recited followed by introductions. There were 14 members present along with Miriam Sanor.

For the Secretary's report Don, AB8KV noted that the minutes for May and June were in the current newsletter. He reported on the publicity sent out or delivered for Field Day and asked if any public officials had visited the site. It was reported that a deputy sheriff from Stark county had come by. He then asked about the Subway donation. Several individuals stated that they were good but that there was only one tray, whereas in previous years two had been provided. Don then reminded the club that the area manager for Subway had told him that this year they were only providing one tray for organizational donations. The Secretary's report was then approved following a motion by Howard, K8DXR and seconded by George, K3GP.

Treasurer Mary Ann, KB8IVS then gave the Treasurer's report. The report was approved on a motion by Howard and seconded by

Tom, KD8JRK.

Old business:

•Regarding Field Day, President Frank noted that thank-you letters needed to be sent to not only Subway, but also Dunkin Donuts and McDonald's for their food donations, as well as to Marlinton school for the use of their property. A motion to do so was made by Tom and seconded by Howard, then approved on a voice vote.

•George, K3GP then reported on preliminary stats for Field Day. He noted that the final 15 minutes seemed to be missing from the log and he would try to get that data off the server. Minus the last 15 minutes, the club accumulated 2576 QSO points and 1050 bonus points for a total of 3626 points. He estimated the final total would probably be between 3650 and 3700.

•VP John, KD8MQ stated that Joe, KC8TAC had suggested that the club try to incorporate more digital modes of operation into the Field Day mix. George also raised the issue of possibly using a different networking software next year due to some problems and shortcomings of the current package. President Frank then asked for volunteers to man a committee to look into these two issues. VP John, Howard and Tom were the members selected, with

George offering to help as time permitted.

•Frank then asked if there was any other old business. Secretary Don noted that two items from the June meeting were tabled until July. These were the issue of the club's insurance billing and the question of whether the club should give a donation to the local Red Cross chapter to assist them in their current financial situation.

•Don, K8OMO noted that he had looked at the insurance paperwork and everything was ok, with Treasurer Mary Ann agreeing that billings and payments had crossed in the mail.

•Tom, KD8JRK then made a motion for the club to donate \$25 to the local Red Cross. This was seconded by Howard, and approved on a voice vote. Dave, N8NLZ noted that a check for the donation needed to be made out to the Alliance-Minerva Area Red Cross, not just to the Red Cross, since if the latter, the money may end up going to the national organization instead of the local chapter.

Regarding the Red Cross, Jerry, KG8RN added that in Columbiana county, the Salem Red Cross office had been closed and moved to Lisbon with the East Liverpool office also being

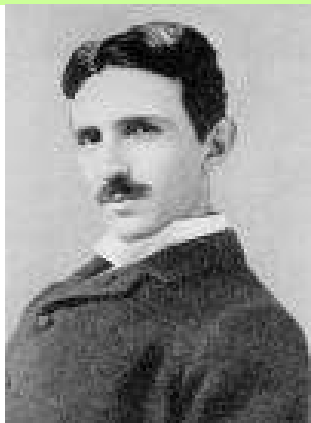
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Who Really Invented Radio?



Guglielmo Marconi
(1874-1937)

OR



Nikola Tesla
(1856-1943)

Guglielmo Marconi (1874-1937) won the 1909 Nobel Prize for physics for "inventing" radio, but the US government rejected Marconi's initial patent applications for the technology. Nikola Tesla (1856-1943)--who tested a radio transmitter in 1893, two years earlier than Marconi--had submitted a similar application, and officials felt his approach was better. Marconi went ahead with his experiments anyway. In 1901, using a transmitter built in violation of Tesla's patent, Marconi sent the Morse code signal for the letter without using a telegraph wire. He became an overnight sensation. Three years later, swayed by Marconi's huge profits in Europe, the US government reversed its decision and awarded him the patent for radio. Tesla actually had grander plans for radio than Marconi, who only saw it as a means for point-to-point communication (a vision reflected in Mar-

coni's name for the technology: the wireless telegraph). Tesla saw radio as a potential tool for mass communication -- much as it is used today. In 1900, he convinced financier J.P. Morgan to invest \$150,000 in the construction of a 200- foot radio tower on Long Island. The tower was to form the basis of Tesla's broadcasting system, but Morgan pulled his money out of the project after Marconi's 1901 transmission. Tesla could not convince Morgan to reconsider, and debts eventually forced Tesla to sell his tower. The new owners dynamited it for scrap. Tesla's work on radio did not go unrecognized forever. In 1943, the Supreme Court reviewed his and Marconi's work and ruled that Tesla was the legitimate inventor of radio. But the decision came eight months after Tesla's death. *(This is a reprint from the August 2004 issue of the Zero Beat, KE8VE editor - no mention was made as to the original source)*

Everyone Can Use An Elmer

When we hear the term Elmer used in Amateur radio circles most of us will conjure up a scene reminiscent of a Norman Rockwell painting where a grandfatherly character patiently offers guidance to a youngster at a workbench.

Chances are that if your club has a membership who came from the era when we dipped the plate and monitored grid current then chances are that there are many opportunities for Elmering when it comes to the digital aspects of modern Amateur Radio. No longer are radio controls right out in front. Extensive menus and multi-function controls are used to access the multitude of features and enhancements of modern transceivers. Other standard features in the ham shack today include computer software for logging, awards tracking, rig control and, of course, Logbook of The World. All are areas in which many of us could use a tutorial to enhance the enjoyment of an already great hobby.

Perhaps at your next club meeting the emphasis can be on mentoring the not-so-new ham as well as the newer folks. Demonstrate popular software programs used in ham shacks today by using a laptop computer and

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July Minutes—cont.

(Continued from page 3)

closed.

•Don, K8OMO then made a motion to dedicate Field Day to Larry Ashburn, KE8VE (SK) in view of his active participation in Field Day events as well as in many other club functions. He also proposed that as part of the dedication a commemoration should be made in memory of George Antonosanti (KE4BNE) who had also recently become a SK. The motion was seconded by Tom and approved on a voice vote.

New business:

•VP John reported that the interclub fox hunt is scheduled for July 11 at 10:00 AM, meeting at the parking lot of Hog Heaven on Cleveland Avenue in Canton. There will be two foxes with the hunt lasting 3 hours. At the end of the hunt those participating can meet at Hog Heaven for lunch and for a drawing for an attenuator board. He noted that this was a collaboration of the Alliance, Canton and Massillon clubs and has been named "The first annual greater Stark county fox hunt."

•It was brought out that a replacement was needed for Larry Ashburn to help teach the classes the club had begun. Anyone interested is to contact VP John, with the topic to be addressed again at next

month's meeting.

•President Frank then raised the issue of the Mile Branch Grange Fair. Jerry, KG8RN noted that the fair was at the end of the month and there may not be enough time to adequately prepare for it. He then reminded the club about the Knox Safety Day in September for which there is time to prepare a good display and participation.

•The issue of reserving Silver Park facilities for the special event station and the annual club picnic was then addressed. VP John noted that the Jaycee pavilion had been reserved for the special event station and the cabin for the club picnic, tentatively on September 26. However, no money had yet been paid to firm up the reservations. A motion was then made by Smitty, KC8TJQ to pay the park board \$100 for the use of the two facilities as planned. This was seconded by Tom and approved on a voice vote.

With no further business, the club meeting was adjourned at 8:30 PM on a motion by Don, K8OMO and seconded by Smitty.

Minutes respectfully submitted by Don, AB8KV, Secretary.

Operators Needed

The next 6 weeks are busy ones for the club. We need operators for several events.

Special Event Station

First, comes the AARC Special Event station on August 15th. We'll set up and operate a special event station at Park to commemorate Alliance as the birthplace of our state flower, the Scarlet Carnation.

Volunteers are needed to assist with setup, teardown, and station operation. Or, how about delivering some pizzas, or brownies? Setup will commence around 9am at the Jaycee Pavilion in Silver Park, and run till 5 PM.

Carnation Triathlon

The next day, on August 16th, is the Carnation Triathlon. Our help is needed this year, more than ever, as volunteers are in short supply. We can use as many operators as we can get. Plan on meeting at the Glamorgan Castle parking lot at 7:45 AM, and working until about 10:30—12:30. Communication will be on Two Meters. Due to the distance we must cover, Mobile rigs are recommended. T-shirts are provided.

Rotary Castle Run

This race occurs at 9 AM on Labor Day. We need a few operators from about 8:45am — 11:00am. Duties usually include relaying runner numbers to the finish line, watching intersections, and tailing the pack. T-shirts are provided.

If you are able to help for any of these events, just show up. however, a call to John, KD8MQ @ 330-936-5021, will be appreciated, so we have some idea of who's coming.

Field Day—cont.

nasonti, KE4BNE. George had previously worked for some of the major airlines, but the obit in the paper gives no further information.

Field Day is intended to prepare us for emergencies. In an emergency, we must adapt to an ever-changing set of circumstances. This years Field Day certainly filled the bill!

Everything was on track. We had decided on a site. Don, AB8KV had outdone himself in the PR Dep't. We were climbing in the sunspot cycle, and it looked as if the radio gods were smiling upon our small group. Then came Thursday evening, when your editor drove out to the FD site to take some measurements. He came face to face with several pieces of heavy equipment! The parking lot at Marlinton Middle was being repaved (It'll look great when finished). So, there was no vehicle traffic coming through the North drive this year.

But, all was not lost. On Friday, Don, K8OMO, made contact with the maintenance supervisor at Marlinton, and secured permission for us to drive on the lawn, for access to the site via the South drive.

The parking lot turned out to be the worst that Murphy was able to through at us this year. There were some other glitches, such as a missing bolt in the mast assembly for the 20 meter beam. This, along with a

blown meter fuse on the control box, had us eyeballing the beam direction quite regularly.

The port-a-pot wound up upwind of the pavilion. That will NOT happen again, even if we have to drag it by hand into the woods!

We had plenty of food, with potluck showing up pretty much all day long, and lasted to the end. Rick, KC8SUI showed up on Sunday morning with food donations from Dunkin Donuts, and McDonalds. So, if anyone lost a pound or two over the weekend, it wasn't OUR fault!

We again used the N3FJP network logging program. No problems were reported, once the initial support issues were dealt with.

We wound up with about the same number of Q's as last year (See chart on page 1), but picked up an extra 300 bonus points.

At the July club meeting, a Field Day committee was formed to investigate some improvements to be made in next years operation. Volunteers for the Field Day committee are George, K3GP, Howard, K8DXR, Tom, KD8JRK, and John, KD8MQ. If you have any suggestions for next year, let one of your committee members know.

Field Day Pix (more pix on pg 14/15)



Ben, KD8KMQ, John, KD8MQ, & Tom, KD8JRK work on the tri-band dipole



Rambo, & OMO
Switched at birth?



Some tense moments were had, until we realized it was NOT a bear in Jim's camper; only Jim!

1st Annual Greater Stark County Fox Hunt

Well, the 1st Annual Greater Stark County Fox Hunt is history. The rain held off **almost** long enough for all hunters to find the fox, and gather at Hog Heaven, for the swapping of tall tales, and some friendly ribbing.

The hunt was a joint venture between the Alliance, Canton, & Massillon Amateur Radio Clubs. The planning committee was made up of John (KD8MQ), Tom (KC8QOD), Dale (NX8J), Mike (KD8ENV), and Scott (N3JJT).

Scoring was simple; As the hunters located the fox boxes, they grabbed the lowest numbered tag from the box. The hunters with the lowest sum of both tags were the winners.

The day began bright & sunny, but started clouding over as the hunt progressed.

The hunt started just a few minutes after 10 O'clock, with the activation of fox # 1. Signing KD8MQ on 147.51, the signal was weak, but reception was still possible at the starting line. Within moments, the parking lot was bare, as the hunters left in pursuit of their prey. At that point, Mike, accompanied by Scott, left to place fox # 2 in its hiding place, and activate it on 145.580.

Barely 30 minutes after the hunt began, word was received from Tom,



Coming in 1st place were (l-r), Jake, KD8GPM, David, KC8WVH, and Justin, W8JKC

that two hunters had arrived in the vicinity of fox # 1, and were homing in quickly on the foxes lair.

Not long afterwards, the team of Justin (W8JKC), Jake (KD8GPM), & David (KC8WVH) arrived back at the starting line with the # 1 tag from both foxes. This was good enough for first place.

Soon after they arrived, the rain began, so we all retired to the restaurant, to wait for the rest of the hunters to straggle in.

The 2nd place team of KD6MPN, and K8OMO arrived soon after, followed later by 3rd place Jason (KC8LIN), and Anthony (KC8FFC).

Dale (NX8J), and Andy (One of the venture crew members) arrived around the same time as Les (W8TJF), and Gary (W8ADA), who had been rained out.

After a fine lunch served by the staff at Hog Heaven, we drew for prizes. The "experienced" copy of "Transmitter Hunting: Radio



Re-checking their route on the computer, are the 2nd place team of Richard, KD6MPN, and Don, K8OMO

Direction finding Simplified" was won by Dale, NX8J.

The winner of the K0OV offset attenuator board, was Richard, KD6MPN. One interesting note is that both the 1st & 2nd place teams used offset attenuators using the K0OV design, though K8OMO swears they didn't use theirs until they were hunting for fox # 2.

The idea for the hunt began last December, when John, Tom, Mike, and Scott put on a fox hunt for some local scouts. After the hunt, the idea was raised of an inter-club fox hunt, and the idea was born.

Plans for next years hunt are tentative, but the CQ Magazine National Fox-hunting Weekend in May is being discussed. We'll have more information as it becomes available.

Thanks to all who participated, for making this one a success. See you in 2010!

Upcoming Fox Hunts

<u>Date</u>	<u>Start Time</u>	<u>Hunt/Talk-in Freq</u>	<u>Sponsor</u>	<u>Start Line</u>
August 5th	7:00 PM	147.525	Cuyahoga Falls ARC	2850 Church St, Stow, Ohio
August 9th	2pm	146.475	Woodchuck ARC	Kmart Parking Lot 7701 Broadview Road Parma, Ohio 44131
August 19th	7:00 PM	147.525	Cuyahoga Falls ARC	2850 Church St, Stow, Ohio
August 29th	1 PM	147.51	Alliance ARC	200 Glamorgan Alliance

For changes, or additions, e-mail kd8mq@arrl.net

Attenuators - Passive vs Active

When tracking the foxes signal, you will eventually need to dial down your received signal strength a bit, so you can still read your peaks & nulls as you take a bearing. For this, you need an attenuator.

Attenuators fall into two categories; Passive, & Active.

A passive attenuator is generally any unpowered device which attenuates the incoming signal. The step attenuator is the most common, and is easily built. Plans used to be printed in the ARRL Handbook, and Far Circuits¹ carry the boards. It consists of a box with several switches which add varying levels of attenuation. I've also seen plans for rotary attenuators which use a single rheostat to add attenuation.

The offset attenuator works by offsetting the received frequency by a fixed amount, such as 1 MHz. TO use it, you tune your receiver 1 MHz off the hunt frequency (up or down). You should hear the foxes signal at this point. The

attenuator has a gain control that lets you vary the signal from full strength to nothing.

There are a couple good designs available on the inter-

net².

So, warm up those soldering guns. Whether active, or passive, either is an easy week-

(Continued on page 11)



OMO, & MPN are ready for the next hunt. They've already competed the offset attenuator that they one in the Greater Stark County Fox hunt (See pg 7).

Ohio QSO Party

Dear Ohio Clubs,

We are sending this email to all the club leaders in Ohio we could find, hoping you would spread the news and excitement of the upcoming Ohio QSO Party on August 22, 2009. This is the ARRL's "Year of the State QSO Party", and we're hoping to generate the largest Ohio turnout ever!

The Ohio QSO Party is a popular state QSO party, where Ohio hams become the hunted stations. The event is casual and fun, yet you can really rack up the QSOs with modest stations. It's fun trying to work all 88 Ohio counties as well as all the states and Canadian provinces.

Load up anything you have on 10-80m and you will make lots of QSOs! In fact, the best antennas for 40 & 80m are low dipoles. At this time of the solar cycle, most of the QSOs are on 20, 40 & 80m, though keep an eye out on 10 & 15m too. Skip on 10-40m is often "long", so if you are looking for other Ohioans, the best place to look is on 80m, even at the start of the contest in broad daylight.

Each year all 88 Ohio counties see some activity, though many of the lesser populated counties are activated by mobile stations which only make 10-30 QSOs per county. CQ stations in rare counties! We're especially trying to get hams in lesser populated counties to get on the air and make some contacts this year. A few hours on the air will make a big difference in generating activity in all 88 counties.

There are numerous awards (certificates and plaques) available -- including a

club competition. These are the plaques and their sponsors, available to the top scorers in each category.

- Ohio Single Operator High Power - sponsored by Findlay Radio Club

- Ohio Single Operator Low Power - sponsored by Cincinnati Buckeye Netters

- Ohio Single Operator QRP - sponsored by Kanga US

- Out of State Single Operator - sponsored by Muskingham Ham Radio Club

- Out of State Single Operator, Mountain/Pacific Time Zone - sponsored by Canton Amateur Radio Club

- Out of State Single Operator QRP - sponsored by Ohio Independent Contesters

- Single Operator DX - sponsored by Northern Ohio DX Association

- Ohio Multi Operator - sponsored by Wayne Amateur Radio Club

- Ohio Mobile - sponsored by Lake County Amateur R. A.

- Ohio Rover - sponsored by Joe Matt, W3AG

- Ohio Club - sponsored by Mad River Radio Club

- Ohio YL - sponsored by Buckeye Belles

- Ohio SSB - sponsored by Muskingham Ham Radio Club

- Ohio CW - sponsored by Forty Over Club (K8FOC) of Cincinnati

New for 2009

With 100w and low wires or verticals, it's pretty easy to rack up many of the states for your WAS award including Alaska and Hawaii. Operate the full 12 hours, and you might find 300-500 QSOs in your log and might complete your WAS.

One of the best ways to rack up the QSOs is to balance

CQing with S&P. Since everyone is looking for Ohio stations, they will be tuning the bands for Ohio stations who are CQing. For working your fellow Ohioans, a combination of S&P and CQing is effective. An example CQ would be: "CQ CQ this is KB8ABC KB8ABC Ohio QSO Party". You will be surprised that modest stations can work 40-100 QSOs per hour by calling CQ -- and you might have a few pileups on you too.

Please join us for the Ohio QSO Party on Saturday August 22, 2009. The OQP starts at noon local time and goes to midnight local. Ohio stations work anyone, and the exchange is a sequential serial number plus your county. Work SSB and CW only on 10-80m. For full rules and official county abbreviations visit www.ohqp.org <<http://www.ohqp.org/>> . Submit logs to: logs@ohqp.org

We apologize for some confusing emails regarding the rules of the OQP. The rules have not been changed as one individual has suggested. The Ohio QSO Party is sponsored by the Mad River Radio Club and not by any individuals. The official OQP website has been moved to www.ohqp.org <<http://www.ohqp.org/>> . For up-to-date OQP news, there is a new OQP email reflector which may be subscribed to from the web site, or by sending an email to: ohqp-mail-request@ohqp.org with "subscribe" in both the subject line and body of the message.

73 & CU on the Air!

Jim, K8MR. President,
Mad River Radio Club

Just A Review of Ionospheric Basics - It's Painless

by Dick Bromley

The ionosphere is a layer of the atmosphere between 30 and 370 miles above the surface of the earth. Solar energy in the form of ultra-violet light (UV) and x-rays, ionize gases in this area, allowing electrons to float freely. These "ionic" gases exist in all the layers. The major ones being considered here are:

- 1) F - region (Consists of F1 and F2 layers)
- 2) E - layer

These two layers have the most pronounced effects on the transmission and reception of signals in the bands below 30 MHz and above 5 MHz.

Ionization is affected by the sun. When there is more activity on the sun there is usually more ionization. If the "noise floor" is low enough, this increased activity improves communications on many bands. Unfortunately, if the sun is active with solar storms, then the noise floor is increased, diminishing the effectiveness of the increased ionization. In this case, even though the ionosphere is in better condition to propagate waves over long distances, the noise floor sometimes does not allow the ham to hear some of the weaker signals. Sort of a "catch 22".

Quite simply, the ionosphere "bends" radio signals below 30 MHz to varying de-

grees.

However, it is much easier to think of these bends as reflections. A signal goes up and is reflected back down to the surface of the earth. Basically, the reflections occur because the free electrons act on the signal in such a way that causes this to take place.

Because the ionosphere is made up of gases, it is free to move about. As a result, conditions are always changing. This constant movement causes a corresponding change in the "bending" characteristics of the ionosphere. For example, a station in Crystal River may be talking to New York one minute and then 5 minutes later find a station from Ohio more readable. It is not because the station in Ohio is more readable, it is because the propagation shifted to change the different concentrations of ionized gases causing a change in the "skip zone". The higher in frequency (below 30 MHz) the more one finds this "shift" occurring.

The F - region is the very thickest region of the ionosphere, which makes the F region special. It is the only layer of the ionosphere that is subdivided into two parts, the F1 layer and the F2 layer. During the day the F region ionizes at different rates, due to its thickness. As a result, two characteristic changes occur:

- 1) during the day, the region splits up and,
- 2) at night the two layers slowly recombine. The F2 layer is the most important of the two. During the daylight hours, the F2 layer forms. The F2 layer is on top of the F1 layer (making it situated closer to the sun). As a result of being closer to the sun, it comes into contact with more of the UV and X ray energy. Because of this, the F2 layer becomes more ionized than the F1 layer. When night settles in, the F1 layer quickly loses its energy while the F2 layer loses its energy much more slowly--usually at the lowest point right before sun-up.

It is the F2 layer of the ionosphere that provides the capacity of the ionosphere to reflect radio energy (this is why the F2 layer is more important to HF communications.). Some of the properties of the F2 layer include reflecting radio signals up to distances of 2500 miles (single hop) and extend to globe-circling "long-path" communications. F-region ionization is always greatest when the sun is directly overhead (as are all Ionospheric layers). F2 ionization is also directly related to UV radiation: the greater the UV, the greater the ionization (note that this means the greater the UV above the cloud cover, and is irrelevant when considered at a

Ionospheric Basics - cont.

"ground level"). Thus, in the summer F region propagation is greatest and in the winter it is least.

The F layer is not very important. For most practical purposes. It can be very effective when it occurs though. On the VHF bands F-layer propagation, better known as F-skip, provides exceptional communication range and clarity. For instance, a station in Inverness may be speaking on a local simplex frequency when all of a sudden a station from Boston, Mass. comes in over the local station. Sometimes during the summer months, a local repeater could experience interference from a Connecticut repeater--some 900 to 1200 miles away! F-skip is very exciting and occurs on frequencies ranging from around 10 meters (29 MHz) and up . . . very rarely as high as 70cm (432 MHz.). F-layer ionization is not as long lasting, nor as energetic as F-region ionization, except in the case of F-skip. Somehow, within the F-layer, a "super ionized" cloud forms which provides this fantastic propagation, not to be confused with extended tropospheric propagation. This form of signal enhancement ("tropo") usually is caused by a temperature inversion where the normally cooler temperatures aloft are warmer than those below.)

D Layer

The D layer is not very

interesting. During the daylight hours it serves to absorb most energy below about 7 MHz. During the night hours, it totally disappears, making 80 meter (3.5 MHz) communications once again usable. It quickly reaches full ionization soon after

sun-up, and almost immediately loses its energy after the sun goes down. It does nothing in the way of reflecting signals--as far as science knows.

(from "Sharc Tales," newsletter of the Sky High Amateur Radio Club Newsletter, Peter Holmes-Ray, KA4TDK, ed.) via ARNS, and reprinted from the July 2000 issue of the Zero Beat.

Elmer - cont.

a projector. If you are fortunate enough to have an internet connection at your meeting hall then you can have a live demonstration of ARRL's Logbook of The World. The next best thing to a live LoTW demo is to use the PowerPoint slideshow "LoTW Overview" which is available free along with many other programs from the ARRL Multimedia Library < www.arrl.org/multimedia >

This is from the May 2009 issue of the ARRL Club newsletter, Norm Fusaro, W3IZ, Editor.

New SM Appointed

Frank Piper, KI8GW, of Pickerington, has been appointed Section Manager of the ARRL Ohio Section. He will serve the balance of the term of Joe Phillips, K8QOE; Phillips passed away on June 20.

Piper has moved up the ranks in ARES leadership positions by first serving as Emergency Coordinator from 2002-2003 and then as District Emergency Coordinator from 2003-2006. He was promoted to Section Emergency Coordinator, serving in that position until 2008. Piper has also served as an Official Emergency Station in the ARRL Field Organization since 1997. According to the Rules and Regulations of the Field Organization, when a vacancy in the office of Section Manager occurs between elections, the position is filled by appointment. Membership and Volunteer Programs Manager Dave Patton, NN1N, in consultation with Great Lakes Division Director Jim Weaver, K8JE, made the appointment effective July 7. His term of appointment continues through September 30, 2010.

Attenuators - cont.

(Continued from page 8)
end project.

¹<http://www.farcircuits.net/>

²These are available at:
http://home.att.net/~jleggio/projects/rdf/a_atten.htm
or
<http://www.homingin.com/joek0ov/offatten.html>

Ham Radio Helps Out with Mountain Rescue



Quick-thinking hams Rich Lippucci, KI6RRQ, of Vista, California, and Kirk Gustafson, KE6MTF, of Burbank, California, were able to work together to coordinate a rescue in California's San Gabriel Mountains. [Kirk Gustafson, KE6MTF, Photo]



Gustafson was with a group of hikers when one of them broke their ankle. He used his handheld transceiver and contacted Lippucci, who was manning a local repeater system. Lippucci notified rescue officials who sent a helicopter for the injured hiker, lifting her to safety. [Kirk Gustafson, KE6MTF, Photo]

I don't normally like to lift complete stories from the ARRL Web site, but I felt this one was worth sharing. It drives home the point that you never know when you may be called upon to react to an emergency situation. Will you be ready?

Reprinted from the ARRL website (www.arrl.org)

It was a quiet afternoon on July 11 and Rich Lippucci, KI6RRQ, of Vista, California, was monitoring the Catalina Amateur Radio Association ([CARA](#)) repeater on his base station. "I heard someone come over the repeater, calling, 'Is there anybody listening?' I responded and the caller said he was on his handheld transceiver hiking around the Mt Baldy area. He was about 2.5 miles off road and resting at the wilderness [San Antonio Ski Hut](#). A few hikers had arrived from farther in the backcountry -- one of their friends had broken an ankle and was a mile or more up the trail and they needed help." Mt Baldy is the highest peak in the San Gabriel Mountains and the highest point in Los Angeles County.

Lippucci asked the caller for his call sign and name. "He told me he was Kirk Gustafson, KE6MTF," he told the ARRL. "I asked Kirk if he had a cell phone, but he told me there was no cell service where they were. I told him I would coordinate emergency services over my landline and asked for his exact location. He did an excellent job; he had a good idea of where he was and wasn't sure which county he was in, but he did have GPS coordinates."

Using his landline, Lippucci called 911 and was transferred three times until he was connected to Chelsea in the San Bernardino County

Sheriff's dispatch center. "Chelsea coordinated the rescue with the San Bernardino Fire Department who sent a foot patrol to the area," he said. "The Sherriff's office dispatched a helicopter to meet someone at the ski hut to take them to where the hiker was down. It took a little less than an hour for emergency services to get above the location in a helicopter, but they were not able to land the helicopter due to the rocky terrain at the ski lift." Lippucci said that while the foot patrol and helicopter were on their way, the group of hikers had brought the injured lady down the trail to the ski hut, stabilized her leg and determined it was probably not broken. They still did not feel they could carry her out as the trail down from the wilderness ski lift was so steep." The ski hut can only be reached via a steep three mile hike and 2200 feet elevation gain.

The dispatcher told Lippucci that the helicopter would perform a skid rescue where a crew member suspends a bed basket from the helicopter; the victim is secured and pulled back up to the helicopter. The dispatchers asked Lippucci to relay back to Gustafson, asking if the group needed anything, such as food or water. Gustafson relayed back that they didn't need anything. "After about 15 minutes from arriving on site, the helicop-

Ham Radio Helps Out—cont.

ter and its crew got the victim airlifted out successfully without further complications," Lippucci said. Gustafson took a video of the rescue with his cell phone that you can see [here](#).

Gustafson and Lippucci -- both ARRL members -- have been in contact since that Saturday afternoon. "Since the incident, Kirk informed me that the injured lady was around 40 years old and that there were up to 15 hikers hanging around the ski hut, some of which were search and rescue volunteers on vacation," he told the ARRL. "They had some kind of radios with them, but their batteries were dead. Kirk said when he got out of his car to start his hike, he grabbed his handheld transceiver radio and GPS. His friends told him 'That's just extra weight -- you won't need that.' He told them, 'I go nowhere without my radio. If I need to call for help, the only way I would be able to let them know where I am is with GPS. I'm bringing them.' I don't think they will say that next time! Kirk said that one of them decided they need to look into getting a ticket and radio and that the search and rescue folks said they were going to look into getting ham radio licenses."

Lippucci said that ham radio saved the day: "A handheld radio, hitting a local wide-area repeater, was what was needed when cell

and landline phones were not available. Many thanks to the CARA club for their awesome reach in Southern California on 2 meters. Thanks also to those on the air that were very gracious to respect the traffic and keep communications open during the rescue. This is such an excellent example of the benefits of ham radio. If people had to hike out of the wilderness, get to their cars and find a cell signal, they might have been pushing up against the loss of daylight hours. Any rescue would have been significantly more difficult in the dark."

Lippucci told the ARRL that 911 and the Sheriff's office in San Bernardino accepted the ham radio call without hesitation. "They used a ham radio operator to relay questions to Kirk through me, to gain all the information they wanted and needed to put assets on the emergency," he said. "It was as if I was calling about something in my own backyard, even though the problem was several counties away in the mountains, with people I didn't know. I am proud to have had the opportunity to use my license in service of an emergency situation. As a [CERT](#) member, this was the very reason I got my ham radio license in the first place!" -- *Information provided by Rich Lippucci, KI6RRQ*



[PR-101 Course on CD-ROM](#)

-- *Developed by the ARRL Public Relations Committee*

Who speaks for your club? Do they have any training in media work? Could they do better?

The PR-101 course is designed to give hams a quick course in public relations activities. It uses the skills of experts in various aspects of public relations to provide volunteer Public Information Officers with the basic skills and expectations that a PIO needs to know. PR-101 covers everything from the basic news release to Web sites and video work.

The course is conveniently set-up for you to complete it on your own schedule. Upon completion it guides you to the Web for the final exam. Participants who successfully complete the exam will be directed to a special area where they can create, print and save a certificate of completion.

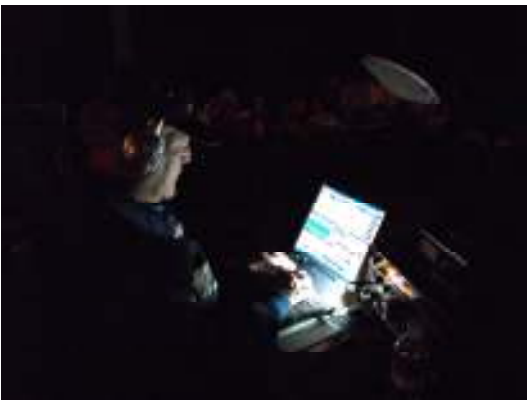
Picture Pages



FD'09—Somehow, OMO talked Tom into polishing his coax connectors.



K3GP gets the 20 Mtr mounting plate in a half-nelson.



K3GP operating by the light of the silvery LED



Joe checking out his handi-work on the 6 Meter Beam



Jessie, KD8KDK & Dana, KC8LKB Evans running stations on 40 Meters



OOPS!

Picture Pages



K8OMO raises tower. . . Almost!

I guess I was the last to hear about this one. Luckily, OMO sent me the pictures. Hopefully, that's the last Oops associated with this tower.

<-- The culprit



<---- The Damage



<-- The cure!

See, towers are easy, just keep a crane truck, and a 700lb piece of sandstone handy!

Amateur Radio Cruise-In



So you think that you have one of the best amateur radio mobile installations to be found? Well here is your chance to show off that mobile rig and have the opportunity to compare it to dozens of others, HF, VHF, UHF, you name it.

On Wednesday, August 5th, starting at 5:00 p.m., the Portage County Amateur Radio Service (PCARS) will be sponsoring an Amateur Radio Cruise-In Night at the **A&W** Restaurant located at 769 East Main Street in Ravenna.



Hams from all over Northeast Ohio will be stopping by to see who has bragging rights for taking home the prize for the best overall installation.



Have you wondered how well screwdriver antennas perform? Confused about how best to run your power cables from the battery to the passenger compartment? How have other hams dealt with all that noise generating equipment in newer cars? Can you work DX from your truck? Need a solution for mounting that remote control head?

Well come on by and get those questions answered while you enjoy a burger, some fries, and a mug of **A&W** root beer. Enjoy an evening of ham radio fellowship and fun and get to know other hams from throughout the area.



Talk-in will be on the N8EQJ repeater, 146.895 MHz, PL 110.9.



More information can be found at the PCARS web site, www.portcars.org, or contact Jim, KC8PD, at kc8pd@portcars.org or 330-297-7979.



August 2009

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
						1 ARRL UHF Contest 10-10 Summer Phone QSO Party
ARRL UHF Contest 2	3	4 7PM Canton ARES Net 147.12 9 PM N. Columbiana cty net 147.255 9 PM SAARA Net 146.805 pl	5 6:00 AARC Board Meeting 7pm Cuyahoga Falls Fox Hunt 7:30 AARC Meeting N8IGZ Birthday	6 AARC Nets 8, 9, 9:30 8 PM Massillon Net 147.18	7 KD8JRY Birthday	8 Maryland-DC QSO Party
2pm Woodchuck ARC Foxhunt 9	10	11 7PM Canton ARES Net 147.12 9 PM N. Columbiana cty net 147.255 9 PM SAARA Net 146.805 pl	12 7pm Cuyahoga Falls Fox Hunt	13 AARC Nets 8, 9, 9:30 8 PM Massillon Net 147.18	14	15 AARC Special Event Station New Jersey QSO Party
Carnation Triathlon Warren Hamfest 16	17	18 7PM Canton ARES Net 147.12 9 PM N. Columbiana cty net 147.255 9 PM SAARA Net 146.805 pl	19 7pm Cuyahoga Falls Fox Hunt	20 AARC Nets 8, 9, 9:30 8 PM Massillon Net 147.18 N8NLZ Birthday	21 K8DXR Birthday	22 Ohio QSO Party Hawaii QSO Party
Cambridge Hamfest 23	24	25 7PM Canton ARES Net 147.12 8PM-Homeland Security net 9 PM N. Columbiana cty net 147.255 9 PM SAARA Net- 146.805 pl	26 7pm Cuyahoga Falls Fox Hunt KD8JSB Birthday	27 AARC Nets 8, 9, 9:30 8 PM Massillon Net 147.18	28	29 1pm Fox Hunt Practice Run
30	31					

Alliance Amateur Radio Club
 P.O. Box 3344
 Alliance, OH 44601

The AARC Wayback Machine

Here again are some of the highlights from the last 20 years of the Zero Beat. you can read them at <http://www.w8lky.org/newsletters/>.

August, 1989, (editors KB8GCE & KB8GCF)

- The August meeting was to be held at Butler-Rodman Park, prior to the club picnic.

- There was a editorial from Pam, N8IAK, pointing out the need for elmers; Someone who could mentor new hams, help them get on the air, etc. As relevant now, as it was then.

- The program for the previous club meeting was on Ni-Cad batteries, and was presented by Ed, N8GZE.

- Novice classes were due to begin in Early September. The instructor was KD8MQ.

- Operators were needed for the upcoming Carnation triathlon.

There were no August, 1994, or 1999 issues

August, 2004, (editor KE8VE)

- KE8VE was reminding us all that when we

key the microphone, it is just as if we were standing at the podium in a large auditorium. Good advice then, is just as good today. Speak as if the whole world is listening.

- Mile Branch Grange had requested that we pay \$30 for 2004's booth at the fair. We politely declined.
- K3GP reported that we had our best Field Day score in 6 years. Interestingly, Our 2009 score was higher than the 3,444 pts reported.