

The Ragchewer

April 2007

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

On the Web: www.k8qik.org

Send email to K8QIK@columbus.rr.com

Club Meetings :

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

Radio Night:

Every Thursday except the
1st Thursday at the club
house, 6:30 pm to 8:30 pm

VE Testing:

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

Club House

Location:

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

Nets:

Mondays at 9:00 p.m.

147.03 MHz (+.6)

146.70 MHz (-.6) Alt. Freq.

443.875 MHz (+5)

Thursday at 8:00 p.m.

443.875 MHz (+5)

UHF linked system

Packet BBS 145.53MHz

K8QIK-1 BBS

K8QIK-2: Ohio53

Weather Spotter Net:

146.76 Repeater with 123Hz

tone Tuesday at 7:30 pm

Alt frequency 147.24 MHz

April Birthdays

Mary Webb	KC8GUN
Richard Smith	WA8VCV
William Tschopp	WA8WRM
James Whitaker	W8HOS
Robert Hughes	KI8JM
Mary Travis	KD8EEI
Donald Jeffries	KC8WMF

Thursday Night Radio Night

Radio night is every Thursday at 6:30 p.m.
(except the first Thursday which is the club
monthly meeting). Work a little HF, make a
few DX contacts, maybe build something? How
about a hot cup of coffee and a few good
stories? We'll have them all waiting for you.

ARRL Membership

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

April VE Test:

The next VE test will be Sunday April 15th at
the club house on Route 37. Register at 9:30
a.m. and testing begins at 10:00 a.m. Prepare
yourself, take this test and upgrade!

Free Swap and Sell

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

2006-2007 Officers

President:

Don Stephenson, WD8PCF

Vice President:

Scott Snoke, WD8IXO

Treasurer:

Ed Campbell Sr., WD8PGO

Secretary:

Robert Northrup, KC8PSW

Trustee:

John Hilliard, W8OF

Station Engineer:

John Hilliard, W8OF

Net Manager:

John Fick, KD8EEK

Activities Manager:

Kay Hanna, KC8HJW

Flower Fund:

Mary Travis, KD8EEI

Chief Cook and

Bottle Washer:

Charlie Snoke, N8KZN

Editor:

Jack Travis, AE8P
(740) 687-1985

April 5, 2007 Meeting Minutes

At 7:30pm meeting called to order by President Stephenson, WD8PCF, who lead the pledge of allegiance.

There were 19 members and 2 guests present.

Club membership application for James Shyrigh, KC8JPZ had its second review and the application for Ed Barnhart, WB8JBG had its first reading. Our guest was Bob Clark, Fairfield EMA planner.

Officer Reports

Secretary Report: Robert Northrup, KC8PSW

Minutes are posted in the Ragchewer. Tom Moore noted his call sign was listed in error in the March meeting minutes. Tom's call sign is KB8USK. Motion to accept by Charlie, N8KZN and second by Ron, WA8GFO. Motion carried.

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

Ed gave the club financials. Motion to accept by Robert, KI8JM and second by Tom, KB8USK. Motion carried.

VP Report: Scott Snoke, WD8IXO

No Report

Trustee Report: John Hilliard, W8OF

John reported the club's repeaters are now listed and coordinated with the Central Ohio Repeater Association.

Committee Reports

VE Testing: Allan Sellers, KB8JLG

The next VE session will be April 15th at the clubhouse. Testing begins 10:00 AM. Gary-W8GTS noted that Barb England passed her tech exam and 2 others from Columbus as well.

Monday Night Net: John, KD8EEK

Apr 9 John, KD8EEK
Apr 16 Charlie, N8KZN
Apr 23 TBD
Apr 30 John, W8OF

John also reported he is working on a severe weather calling tree so if you can help, contact John, KD8EEK.

Ragchewer: Jack Travis, AE8P

Jack said all is going well and is ready for the next installment of the "Chewer". Jack is still looking for local content, ideas, kit building info or home-brew activities.

Submit your article, news item, cartoon, or other Ham related bits of trivia to Jack at k8qik@columbus.rr.com.

Emergency Coordinator: Ed Campbell, WD8PGO

Ed noted tonight was photo night if you wanted to help with EMA events, etc. Also Bob Clark was there to swear in all who indicated they wanted to help the EMA. To help out and also be covered by Workman's Comp, you must be sworn in and have an ID badge. Ed also noted the CERT training classes started with 119 registrants, had 105 show up and finished with 89 persons.

Mr Clark gave a run down of the new NIC and EOC, their purpose and staffing needs during an event and the training exercises that will be held on May 17th and in late August. Bob also noted there will be review of Sandberg School on April 9 and a training class on May 8.

Safety: Scott Snoke, WD8IXO

No Report

Station Engineer: John Hilliard, W8OF

John reported again about our repeater status with the county and the desire to get the one repeater out of their building and into a weather tight enclosure ASAP. Allan, KB8JLG has the cabinet but weather has kept those involved from moving it to the clubhouse for renovations, etc. The 146.700 repeater antenna was hit by lightening some time in the recent past and John brought the top of the antenna to the meeting for show-n-tell. Also John wants to take the old antenna in the basement, retrofit it for CERT activities. Motion made by Robert, KI8JM, second by Mary, WD8EEI. Carried. After the repeater is installed in the outdoor enclosure, John wants to take the old UHF repeater carcass in the basement and rejuvenate it for CERT activities as well. John further stated the new tubes that were installed last year in the 147.030 repeater, had been damaged over the winter months. One burned out because a label

blocked cooling ports and the anode cap broke off the other. John swapped those out for the old tubes and got the unit back on the air and contacted the company the tubes came from. They agreed to replace the damaged tubes.

Activities Manager: Kaye Hanna, KC8HJW

Kay said she has booked the Ponderosa on East Main St for our next Christmas party that will be held on December 15, 2007 from 6:30 to 9:30 PM. Kay said she has contacted a speaker for our Christmas party. Pam Lemay will be our guest of honor.

Flower Fund: Mary Travis, WD8EEI

Mary said there was \$14 collected and Paul, KD8DDD won \$7.

Fund Raising: Kaye Hanna, KC8HJW

\$16.00 was collected at the meeting and added to the previous balance for a grand total of \$52. John, KD8EEK won \$26 and donated it to the radio fund.

Old Business:

Jeff Bell, KD8JLI was recognized for all the work he has been doing in the radio room upstairs but needs a key to access the building so work can get done when he is available. A key was made available.

Rob Ruffner, KD8DXC's wife made a K8QIK QSL card for contacts made during radio night. The cards look very professional so kudos to Rob's wife for her fine work.

Jim Shyrigh, KC8JPZ noted he is continuing to plan for 2007 Field Day activities. If you can help, contact Jim.

New Business:

Club members voted on membership for Jim Shyrigh, KC8JPZ. Motion by Allan, KB8JLG, second by Robert, KI8JM. Carried.

Charlie, N8KZN noted the MS Walk-a-thon scheduled on April 14th. If you can help, be at the fairground at 8:30 for check-in.

Lancaster 4th of July planners contacted Charlie recently to request the club's assistance with the parade and parking. Please mark your calendars the 4th will be on a Wednesday this year.

Jack, AE8P commented on the new batch of general licensees the club may experience soon and many will not have access to the building unless they come on radio night and competition for available radios might be stiff. There was good discussion about those who have keys and key cards and those who don't but Ed stated that keys and key cards can be made for \$6 and registered with the county. When you access the building with the key and key card, the entry is logged in so we have a record of who was in the building. If you need access to the building, get with Ed.

Motion to adjourn was made by Robert, KI8JM and second by Hollywood, WA8YSC. Motion carried. Meeting adjourned at 8:37 PM.

Respectfully submitted,
Robert Northrup, KC8PSW

Upcoming Hamfests

April 15 is the 52nd annual Hamfest, Electronics & Computer Show by the Cuyahoga Falls ARC in Cuyahoga Falls. You can get information at <http://www.cfarc.org/hamfest2007.htm>

April 29 is the Athens County ARA hamfest in Athens, Ohio. You can get more info at <http://www.ac-ara.org/hamfest.html>

May 18, 19, 20 Dayton Hamvention. Get information at <http://www.hamvention.org/> Don't miss this one, it's the biggest and best.

Tubes For Sale

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

Weekly CW Practice

Bob Hughes, KI8JM and Gary Snider, W8GTS have started having CW practice over two meter radio every Sunday from 6:00 P.M to 7:00 P.M. The practice session will be on the 146.70 repeater. This is not for learning CW, but it is intended to improve your speed. Each session will start at the slowest speed and increase over the course of the hour.

E-mail Addresses

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

week earlier. Send me your e-mail address and tell me to take you off the snail mail list. If you have a new email address, be sure to also let me know. Send to K8QIK@columbus.rr.com

The Wayback Machine #10

by Bill Continelli, W2XOY

In our last installment, we learned that the "UHF" spectrum above 25 MC, which during the 1930s was populated only by amateurs, was now in the center of a battle being fought on many fronts. Amateurs wanted their 10, 5, 2-1/2, and 1-1/4 meter bands back. Major Edwin Armstrong wanted to increase the 42-50 MC. allocation in the new FM broadcast service. General David Sarnoff of RCA wanted huge chunks of VHF space set aside for television, as well as limited spectrum for FM, a potential rival. And William Paley of CBS wanted UHF -- not VHF allocations for CBS' "color wheel" TV system, which they wanted the FCC to adopt as the television standard, in lieu of RCA's competing system. In addition to these major players, other minor characters were also clamoring for VHF frequencies - the growing aircraft industry, police departments who were tired of the interference-prone 1700 KC. Police band and wanted to use FM on vhf -- and even businesses to whom the idea of personal two-way communication was now possible. Thanks to the war and the introduction of new VHF and UHF tubes, the frequencies above 25 MC. were now the most sought after slice of the RF spectrum.

During late 1944, the FCC held hearings on post-war VHF allocations, in which there were 231 witnesses and 4200 pages of testimony. In November 1944, the first proposal on VHF/UHF allocations was released. See if you could have lived with it...

23.5-27 MC.	Industrial Applications
27-29 MC.	Amateur 11 Meter Band (yes, that's right!)
29-43 MC.	Police, Fire, Emergency, and Local Government
43-58 MC.	FM broadcasting
58-60 MC.	Amateur 5 Meter Band (note only 2 MC.)
60-102 MC.	TV channels 1-7 (the RCA system)
102-108 MC.	Non-government Emergency
108-132 MC.	Aircraft

132-144 MC.	Government
144-148 MC.	Amateur 2 Meter Band
148-152 MC.	Government
152-218 MC.	TV Channels 8-18 (yes, up to channel 18 and again, the RCA system)
218-225 MC.	Amateur 1-1/4 Meter Band
225-420 MC.	Government
420-450 MC.	Amateur 70 cm Band
450-460 MC.	Facsimile Broadcasting
460-956 MC.	UHF Television using the CBS color wheel system

So, under this proposal, our 10 meter band was moved down 1 MC., we would lose 1/2 of our 5 meter band, we lose 112-116 MC. but gain 144-148 MC., our 1-1/4 meter band stays the same, and we gain a large chunk at 420 MC. The FM broadcast allocation is increased by 85%, police agencies leave the crowded medium wave area for VHF-FM, aircraft has their piece of the pie, and both CBS and RCA have home turfs to battle out the TV standards war. Note also the 450-460 MC. range allocated to "Facsimile Broadcasting." For those of you who think FAX machines are a recent invention, it may interest you to learn that 60 years ago, a reliable mechanical-electrical FAX system was in use. By the mid-1940s, it was widely believed that every home soon would have a FAX machine. During the night, as you slept, the machine would be tuned to various stations in the 450-460 MC. range and would print out the next day's newspapers, magazines and catalogues, for you to read in the morning. Another proposal was for a "Veteran's Band", which would be a 2000 MC.-wide slice of the spectrum above 10,000 MC. This proposed band would be available for war veterans (and ONLY war veterans) in any way they desired.

The ARRL was quick to object to the proposed allocations. It was not acceptable to amateurs to move our 10-meter band down 1 MC., to eliminate 50% of 5 meters, and to upset the harmonic relationship of our bands by moving us from 112 up

to 144 MC. The FCC capitulated on 10 and 5 meters, as we will see in a moment. As for the 144-148 MC. band -- the FCC was firm. 112- 116 MC. was going to aircraft. Furthermore, the FCC wanted our amateur bands above 100 MC. to be next to government allocations, so that in time of war or national emergency, they could be used for the expansion of essential governmental radio services. The needs of the government, per the FCC, outweighed the need for a strict harmonic relationship between the amateur bands.

Meanwhile, while the ARRL was arguing over our allocations, General Sarnoff was conducting his campaign behind the scenes. He couldn't eliminate the CBS color wheel UHF system because, at that time, CBS was producing beautiful, lifelike color pictures that impressed the FCC. But he could attack FM. A big deal was made out of the claim that FM broadcasting needed to be moved higher in the VHF range to eliminate interference caused by Sporadic-E skip. Sarnoff, of course, wanted these frequencies for TV. He never explained, and no one seemed to ask, how TV would not be affected. In fact, TV, with its amplitude modulated video signal, would be more susceptible to "E" skip than FM with its capture effect. RCA however had power, money, and influence, and Major Armstrong found he was no match for the corporate giant.

On January 15, 1945, the FCC issued a revised allocation proposal:

25-28 MC.	Fixed, Mobile, Industrial, Scientific and Medical
28-30 MC.	Amateur 10 Meter Band
30-44 MC.	Police, Fire, and Various Governmental Allocations
44-50 MC.	TV Channel 1 (now you know where it was!)
50-54 MC.	Amateur 6 Meter Band
54-84 MC.	TV Channels 2-6

84-102 MC.	FM Broadcasting
102-108 MC.	Possible Facsimile Broadcasting
108-132 MC.	Aircraft
132-144 MC.	Government
144-148 MC.	Amateur 2 Meters
148-152 MC.	Government (note 2 meters sandwiched between two government bands)
152-162 MC.	Police, Fire, and Other Local Government
162-170 MC.	Government
170-180 MC.	Navigational Aids
180-216 MC.	TV Channels 7-12 (note that TV only gets 12 channels here)
216-220 MC.	Government
220-225 MC.	Amateur 1-1/4 Meter Band
225-420 MC.	Government, Including Military Aircraft
420-450 MC.	Amateur 70 cm Band
450-460 MC.	Air Navigation
460-470 MC.	A New "Citizens' Band" (which would eventually evolve into Class A and Class B CB, then into GMRS and the new FRS)
470-480 MC.	Facsimile Broadcasting
480-940 MC.	Experimental TV (for the CBS system)

Yes, this proposal sounds a lot like what we have today, but the battle was only beginning. Major Armstrong was not giving up on an FM band in the 43-58 MC. area. He didn't want the thousands of FM receivers and dozens of stations now on the air to suddenly become obsolete. CBS was still convinced that UHF was the place for TV, and their system was the best. During the first half of 1945, the battle would rage with many more proposals to come forth.

Join us next time as "The Wayback Machine" continues to watch this epic battle.

Radio Auction and More

Thank you Brenda Van Dyke, KC8OYP for providing this information for the membership.

<http://www.clum.com/apr1407/p1.htm>
(real estate & house April 14)

As you know, Paul Dilliard, WA8IBT was a long time member of LFARC and the Medicare Net, who passed away last December at the age of 96

<http://www.clum.com/may0907/p1.htm>
(radio collection announcement May 10)

Announcement of auctions to be held were listed in Saturday's Lancaster Eagle-Gazette. Following are internet links to the auction dates.

<http://www.clum.com/may0907/radio.htm>
(list of radio equipment)
Brenda Van Dyke, KC8OYP

Prevent Burned Out Finals

This msg. started w/ a statement from one of the Ten Tec reflector msgs. about burning out his final transistors due to overcurrent. This reply is one persons fix. I would think that our club members should be reminded what happens to their finals when the current gets too high. Most rice box's have fold back features which just turns down the power. Ten Tec and some of the older rigs don't do this so this may be of some interest.

Ralph Howes
W8BVH

I often hear rumbling about the Pegasus NOT having SWR rollback protection. Well just to set the record right Ten-Tec has never used rollback circuits in any of their transceivers (haven't checked the Omni-VII yet)... that 'rollback' design was something that other companies used rather than current protection. From the beginning of the first Triton line Ten-Tec used over-current protection via their 'matching' power supplies to protect the associated transceiver. I remember those days (the mid 70s) very well... my friends were replacing their solid state finals in their import rigs far too often, but Ten-Tec owners rolled merrily along. Almost every Ten-Tec transceiver manual written included an entire section on SWR and over current protection for their transceivers... it seems that far too many hams only scan their manuals these days. Much more the pity.

Ten-Tec power supplies up to and including the 962 incorporated an extremely FAST over-current shutdown circuit. Unfortunately the newer switching style power supplies seem to lack that circuit so beginning with the Jupiter the over-current protection moved to the transceiver itself. The Pegasus, which

predated the Jupiter does not have it. HOWEVER, you can use the Pegasus nicely with many older Ten-Tec power supplies as long as you pick ones that are designed for 20 amps continuous. The models 255 and 280 come immediately to mind. Both are plentiful and available used for \$50-\$90 and incorporate front panel current meters as well. I use a model 255 with my Pegasus. You literally can't hurt these Finals unless operated into conditions where they draw excessive current. Now if you insist on using the Pegasus with power supplies that will deliver what ever the transceiver is asking for in excess of 20 amps, then you are putting the finals at risk. Some add appropriately selected high-speed current switches between the power supply and the transceiver (AirPax?). I haven't done that.

N4PY incorporates user configurable SWR rollback via software as someone else mentioned. I can not testify to how 'well' this is implemented. I do use Carl's software and find it a pleasure and I configure its rollback accordingly. As a software developer myself I can see that the latency of this approach (delay) would not be as instantaneous as a hardware solution, but I believe in most cases it would effectively cut back the transceiver's power requirement in time (but you have to configure that).

At any one time I have about seven HF rigs in my shack and every once and a while I forget which is on the antenna/dummy load system and key the wrong transmitter. Ooops! I have done this to my Pegasus more than once. The 255 power supply instantly shuts the Pegasus off.... just like Ten-Tec intended. I don't worry. I've been using Ten-Tec rigs for over 35 years and never damaged any finals.

73, Jerry, KG6T

Power Point Learning

By Jack Travis, AE8P

I have acquired a number of Power Point presentations related to Amateur Radio. I wish I could put them in the Ragchewer but Power Point doesn't translate well in print.

Each of these presentations are worthy of your interest and I will send them via email if you let me know your desires. Search on the internet for Power Point if you don't already have it. The reader is free and is a nice presentation. Remember if you have dial-up internet, 1000KB will take about 3 minutes or

more to download. Let me know if you want any or all of these.

- 100 Great Publicity Ideas For You're Radio Club - size 1002KB
- 12 VDC Distribution Rules of Thumb - size 77KB
- A General Overview of the APRS System - size 13393KB
- All About Echolink - size 2070KB
- All About HF-Radio - size 3502KB
- All About Radio Propagation - size 242KB
- Amateur Satellites - size 2296KB

- Beginner's Guide to HR Contesting - size 3397KB
- Circuits for Future Radio Systems - size 408KB Acrobat pdf.
- Digital Signal Processing Fundamentals - size 2532KB
- Discover the Magic of HF Radio - size 396KB Acrobat pdf
- DX The Ultimate Contact Sport - size 920KB
- Guide To Repeaters - size 818KB
- HF-Mobile Installation and Operation - size 4841KB
- HF-What Should I Expect ? - size 3500KB
- How To Be A Media Relations Superstar - size 151KB
- Near Vertical Incident Skywave (Propagation) - size 7049KB
- Radio Communications - size 704KB
- Radio How Things Work - size 1009KB
- Simple VHF Direction Finding - size 116KB
- The 3 P's of Public Service - size 54KB
- The Wonderful World of Antennas - size 183KB
- Traffic Handling and Amateur Radio - size 2118KB

DXing on 60 meters has a downside, ARRL advises

Thanks Ralph, W8BVH for forwarding this.

The ARRL is expressing concern that negative consequences could result from chasing DX on 60 meters. Some DXpeditions have announced plans to operate on Amateur Radio's only channelized band, where amateur operations hold secondary status to fixed service operations, including some US government stations. ARRL CEO David Sumner, K1ZZ, says that while it's legal for DXpeditions to operate on the 5-MHz band provided the licensing administration extends privileges there, DX pileups on 60 meters pose the potential for real and unique problems.

"US amateurs are limited to five channels on 60 meters, USB only, maximum effective radiated power (ERP) of 50 W, audio bandwidth not exceeding 2.8 kHz, and not all of the channels are useable because of ongoing fixed service operation," Sumner points out. Upon request of a primary service

user, Sumner says, it's "absolutely imperative" that hams be prepared to relinquish any 60-meter channel immediately. This means constantly monitoring the transmitting channel. Hams also must not exceed the radiated power limit, he stressed.

Not all countries authorize amateur operation on 60 meters. Transmitting on a 5 MHz frequency without authorization not only breaks the law but jeopardizes the operator's continued participation in the ARRL DXCC program. Five MHz cards submitted for DXCC may not be accepted for credit without evidence the operation was authorized.

Sumner emphasized that causing harmful interference to fixed and mobile service stations could jeopardize even the existing, limited privileges as well as the chances of increasing those privileges on a domestic basis, plus any possibility of obtaining an international allocation on 60 meters.

Letter To The Editor

I would like to say something that's on my mind. First of all I'm sad to say I was disappointed in the turnout to the CERT training. I know 8 members that showed up.

Why don't more members get involved with the programs that are offered to the community?

What is amateur radio all about? I'd like you all to think about it. I got my license to help out the community and more. I'd like to see our members get involved helping the community. Thinking about this, when more people show up to these programs,

we might get more interest in amateur radio.

The last class I was in someone asked me about my Handi Talkie. It was great to see someone was thinking about being a ham. Then Jack, AE8P talked to the man and gave him some info about being a ham.

I'd like to see more people show up for the free classes which would help get the word out about being a ham and about our club.

Thank you for letting me speak out.

73, Bob Prince, KD8EXK

Baluns – Who needs them?

You may if:

1. You can detect RF on the shield of your coax feeding the antenna.
2. You measure different SWR's when using different lengths of coaxial feedline.
3. Your coax feedline does not form a 90- degree angle with the antenna elements.
4. Listeners note RF distortion of your audio
5. You get little shocks if you touch the transmitter case while transmitting
6. You just can't reduce the SWR to a reasonable level when loading the antenna.
7. Or you want to avoid stringing open wire or ladder line feeders from your Zepp or G5RV antenna through the house.

Most of today's transmitters have an "unbalanced" output. That is, there is the center "hot" conductor and it carries an RF voltage relative to ground and a grounded shield. When using coax to feed a "balanced" (electrical symmetrical) load like a dipole antenna, the RF current will flow up the center conductor to one side of the dipole. The return current, which is 180 degrees out of phase, will flow from the other side of the dipole down the inside of the coax shield to ground.

Under these perfect conditions the RF field created about the center conductor will be 180 degrees out of phase with that created by the return current along the inside of the shield and the two fields will cancel resulting in zero net radiation from the coax feedline.

However, in the real world, some of the return current will also flow down the outside of the coax shield and this will result in an RF field being radiated from the outside of the coax feedline.

The problem is further illustrated below where the RF current down the center conductor from the left-hand element is equal to the RF current flowing upward on the inside of the coax shield. However, where the coax shield ties to the right hand element of the dipole the current on the inside of the coax shield goes partially to the right hand element and partially to the outside of the shield back to ground. Others have measured the current in the right hand element to be as little as 60% of that which was flowing in the left-hand element. The other 40% of course is flowing down the outside of the shield

resulting in a lesser vertically polarized radiated pattern.

If the coax feedline is perpendicular to the antenna elements, the shield will act as the vertical part of an inverted "L" and as you can see, the antenna is obviously unbalanced. That is, the two halves are not symmetrical with respect to ground. Although this radiation from the vertical shield may distort the actual net radiated pattern of the antenna, it may still load with an acceptable SWR when using a tuner. Let's face it, there are thousands of dipoles fed in this manner and while they may not be optimum, they seem to have been "getting out" just fine.

However, when the coax feedline forms an angle with the horizontal portion of the antenna elements it may receive and re-radiate some of the transmitted signal. While this would cause additional distortion of the antenna total radiation pattern, it can also create a high SWR and serious difficulties in loading the antenna. Additionally it can introduce RF into the shack, which can result in audio distortion problems and hot spots (burns) when touching the equipment during transmissions. This is further exacerbated in the presence of poor RF ground at the shack.

This problem does not exist with a balanced transmitter output, where both output lines are referenced to ground, and a "balanced" open wire (e.g. ladder line) feeder is utilized. In this case each of the parallel feed wires carries an RF current that is 180 degrees out of phase with the other and the field about one wire is then canceled by the opposing field about the other wire.

A "balun" is a transmission line transformer that allows a balanced load, such as a dipole antenna or an inverted V, to be fed by an unbalanced source, such as the coax from the unbalanced output of most modern transceivers. The "balun" will present a high impedance and will "choke off" any RF current attempting to flow on the outside of the shield of the coax feed.

There are several forms of "balun's." For monoband antenna, these range from a ¼ wavelength metal sleeve (bazooka) around the coax feed line to a ¼ wavelength section of coax in parallel with the feedline at the antenna. A ½ wavelength section could also be used to perform the "balun" function and "phase" the two halves of the antenna. However,

these techniques are seldom used because most HF enthusiasts use a multi-band antenna.

A multi-band antenna requires a "broadband" balun. This could be a set of air core coils as used to be sold by Heathkit. The model shown also provided a 4:1 impedance transformation. For example, it would transform the 300 ohm input impedance of a folded dipole to 75 ohms as seen by the transceiver output. However, this technology has been essentially

replaced by the smaller balun's wound on ferrite cores or the use of ferrite beads (donuts) placed around the coax at the antenna. Again, the essential function of these balun's is to present a high impedance to RF currents that might appear on the outside of the coax shield and choke them off before they enter the shack.

Perhaps the simplest of the broad band balun's is just a several turn coil of coax in the feedline.

Remembering a Period of Time

By John Lauder, N9LIN

During the long history of Amateur Radio we see certain divisions of time taking place. There was the spark gap, the no activity during World Wars and others. Recently I think I identified a new, period of our history, the post WWII modification time period.

During this period a lot of U.S. military surplus equipment became available to the general public, including hams. So while hams continued to design and construct their own equipment, transmitters, receivers and antennas, there developed a subset of our hobby, the modification of military equipment. The magazines and clubs, at this time period, devoted a lot of time and energy to the modification or conversion of equipment for amateur radio uses.

A review of QST and CQ magazines from late 1940's and early 1950's is both informative and interesting. There is a story, with pictures, of a ham tower rotating on the frame of a B-29 gun turret along with the modifications required to accomplish this. There is a story of an electronic tube, (GL-211) a standard transmitting tube of this time period, falling 10,000 feet from a Flying Fortress and surviving to power a radio transmitter. The tube's descent followed an attack by the Luftwaffe on a formation of Flying Fortresses in 1943. Several planes exploded and thereafter a package was seen falling to the earth. Inside the package was this tube. This was reported in CQ December 1947,

page 23, and the tube was still being used by a ham in France, who by the way watched the package fall and retrieved it as well.

During this time period there were many war surplus sales ads in the amateur radio magazines. Crystals were big items and kits too. About 90 % of the business are no longer around today and about 70 % were dealing only in war surplus equipment. A review of the pictures of hams during this time shows most wearing suits and ties, almost formal. Another observation suggests that women were more into amateur radio then than now. The Young Ladies' Radio League (YLRL) was a very active organization nationwide. This was really an unusual time in our hobby as well as our country.

The November 1947 CQ magazine had a full-page ad for Collins radio announcing the reinstatement of direct sales from their factory. Also some discussion regarding SID. This stands for Sudden Ionosphere Disturbance. Not many of us relate to SID but we are aware of LID.

The next time you are at a hamfest, buy an old magazine, probably for a quarter, and take some time to thumb through it. I think you will be pleasantly surprised how interesting it will be. Also the WCRA has some older hams that probably have some stories to tell of this time period in our hobby. We encourage you share with us your experiences, good or bad, serious or amusing.

Editorial

The Ragchewer is created every month for you and I hope you have been enjoying it. But it does not come without a penalty. I try real hard to do a good job. Lately there has been a trend toward wanting a printed copy sent rather than receiving it via email. As a result of that demand, it takes more time and

effort to design and print the Ragchewer. I won't even try to explain the additional cost to the club. Consequently, unless someone offers to print it each month, there will only be an 8 or 10 page Ragchewer sent both email and snail mail. Jack Travis – editor

Table of Contents

Page 1 – April Birthdays
Page 1 – Thursday Night Radio Night
Page 1 – ARRL Membership
Page 1 – April VE Test
Page 1 – Free Swap And Sell
Page 2 – April 5 Meeting Minutes
Page 3 – Upcoming Hamfests
Page 3 – Tubes For Sale
Page 3 – Weekly CW Practice
Page 4 – E-Mail Addresses
Page 4 – The Wayback Machine # 10
Page 5 – Radio Auction and More
Page 6 – Prevent Burned Out Finals
Page 6 – Power Point Learning
Page 7 – DXing on 60 meters has a downside, ARRL advises
Page 7 – Letter To The Editor
Page 8 – Baluns – Who Needs Them?
Page 9 – Remembering a Period of Time
Page 9 – Editorial

LFCARC
P.O. Box 3
Lancaster, OH 43130

K8QIK

April 2007



Put
postage
here

Put Label here