The Pfafftown Hamfest - THIS STAURDAY! - Saturday October 9, 2010 - 8AM - 12 Noon

Forsyth Amateur Radio Club, Inc. Newsletter

SPECIAL SERVICE CLUB

OUR 80TH YEAR!

Founded December 30, 1930

October, 2010

Kippe's Kamper and the Blue Ridge Bonanza

By Don WS4NC

In past years it has rained on Blue Ridge Bonanza - not just rained but *inundated*. There was something amusing in watching Henry W2DZO drag himself out of a nearly collapsed and essentially useless tent parked in a river after a night of unrelenting downpours. For some reason he wasn't in a good mood on Sunday and had no interest in either breakfast or ham radio that Sunday morning.

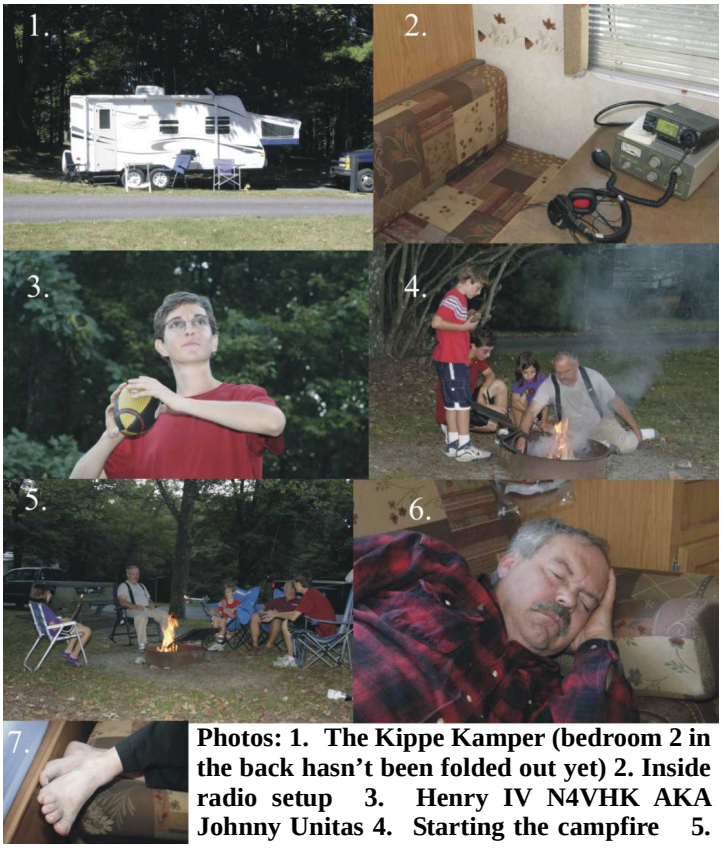
This year the weather was perfect. Just cool enough to feel good and blue skies all day and star-filled skies at night. Probably because we had all the comforts of home. John Kippe N0KTY has a new camper - a luxurious home on wheels. Said camper is what Kip and I took to Doughton Park and spent both Friday and Saturday night.

Unfortunately we had it too ourselves most of the time. Henry W2DZO and Henry N4VHK and family did come up and bring dinner on Saturday evening. We had a great time. Kip and I worked about 100 stations on Saturday. I think previous showers intimidated most of the previous years' attendees. But all the usual suspects did claim other commitments. Now if we could just get those who said they would show up to pay for the $50 in diesel it took to get the "Kippy Kamper" there we would be happy.

Ham Radio License Testing

Amateur radio testing for new applicants as well as upgrades will be given the 2nd Monday of every month, except December, prior to the FARC regular meeting. All test participants are invited to attend the meeting. The time is 6:30 PM and the place is the Red Cross building on Coliseum Drive in Winston-Salem. Pre-registration is required via e-mail, listing the elements you wish to take and your phone number. You may pre-register or get additional information via e-mail to info -at- w4nc.org, attention Dale Mierisch WB9SZL. Replace -at- with the usual symbol. Other dates/times will be published as we schedule them.

Dale Mierisch WB9SZL
Session Manager - Forsyth Amateur Radio Club
1-336-766-9675



Photos: 1. The Kippe Kamper (bedroom 2 in the back hasn't been folded out yet) 2. Inside radio setup 3. Henry IV N4VHK AKA Johnny Unitas 4. Starting the campfire 5. Ghost story time 6. The required shot of N0KTY sleeping 7. Sleeping Kippy toes.

October Meeting

The main club meeting will is always the 2nd Monday of the month (October 11) and is held at the Northwest NC Red Cross Chapter House on 610 Coliseum Drive in Winston-Salem. The meeting will start at 7:30 PM and should run to about 9 PM. Arrive early to get a good seat and to hobnob with your fellow hams. The program this month will be about Midway Island.

Forsyth Amateur Radio Club, Inc is a non-profit (IRS 501(c)3) North Carolina corporation for the promotion of Amateur Radio, and for the education and training of hams and the general public primarily in Forsyth County, North Carolina.

FARC was originally incorporated as the Winston-Salem Radio Club on December 31, 1930 and has been in operation ever since. We currently maintain a state-of-the-art ham station in the basement of the Red Cross, 690 Coliseum Dr., Winston-Salem, NC and also maintain two 2-meter repeaters, 146.64 (100 Hz tone) and 145.47 (100 Hz tone).

FARC has a general membership meeting with a program on the 2nd Monday of every month at the Red Cross building, 690 Coliseum Drive in Winston-Salem. The club conducts its main business meeting (sometimes called the Board Meeting) on the 3rd Monday generally at the same location. This is where most of the club's business is conducted and all attending members have a vote. All club members are strongly encouraged to attend the business meeting. For more information about FARC mail us at FARC, Inc., PO Box 11361, Winston-Salem, NC, 27116; call 336-245-5740; or visit out web site at www.w4nc.com . Club email is to info -at w4nc.org .

Officers for 2010 are:

President: Terry Brown, AK4D
(Formerly KN4BA)

Vice-President: Eric Bowen, KJ4DLS

Secretary: Tom Gallagher, N4IOZ

Treasurer: Henry Heidtmann, W2DZO

Newsletter Editor: Don Edwards, WS4NC

To join our list server send a blank email to w4nc-subscribe@yahoogroups.com

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We trade newsletters with other clubs, and many local clubs are on our mailing list. If your club has a newsletter and would like to trade please send us a copy.

Basic and Advanced SKYWARN Classes in Greensboro

Richard L. Howell - AE4RH
AEC Triad SKYWARN
Randolph - Guildford County

We have just scheduled two SKYWARN classes, one BASIC and one ADVANCED class, for the Greensboro area to be held on October 13th and 14th respectively. Class details are below and flyers to help advertise the classes are attached. Individuals do not have to attend the BASIC class on the 13th in order to attend the ADVANCED class on the 14th as long as they have had a BASIC SKYWARN class in the last couple of years.

October 13, 2010, 7pm - 9pm
BASIC SKYWARN

October 14, 2010, 7pm - 9pm
ADVANCED SKYWARN

Location: Hinshaw United Methodist Church (Fellowship Hall) 4501 High Point Road, Greensboro, NC. The complete physical location of the church is: Hinshaw United Methodist Church in the Fellowship Hall, 4501 High Point Road, Greensboro NC 27405. Located between the intersections of Groomtown / Hilltop Road AND Merritt Drive. Any questions may be directed to me at AE4RH@aol.com and I will answer them as soon as possible.

ARES Announcements

Eric WK4CW

Anyone having questions about our ARES group or would like to volunteer for upcoming events, feel free to contact me at wk4cw@arrl.net or 336-231-4182. ARES net Thursday evenings 8:30 p.m. on 145.470.

The first Thursday of every month will be "Emergency Power Night" on the Forsyth County ARES Net. All stations are asked to check in using emergency power setups and this will give stations a once per month opportunity to check out their equipment in emergency power mode.

ARES Reports

By Carl, N4PAA

Sep. 2, 2010 - Forsyth County ARES Net Report

Net Started - 8:30 PM. Net Control - WK4CW Eric.

Check ins - 20. Stations were WA4NOT Jim, AF4XC Ed, W4KG Steve, N4EY Steve, KG4FGC Ken, WF4DD EFU Club, KF4EOD Mike, AK4D Terry, KC4WSK Van, W8LWX John, KF4HHG Tim, N4IOZ Tom, NA4P Fred, N4PAA Carl, KE4ZFN Bryce, KJ4SXH Ron, KJ4SEN Chris,

WB4QXG Fred, KA4JRL Jason and WK4CW Eric.

There was no traffic this evening.

KG4FGC Ken announced that the WF4DD net will start at 9 PM or at the conclusion of this net. He also listed Skywarn Spotter Training classes - Basic on Oct. 13 and Advanced on Oct. 14, 7 - 9 PM both nights at Hinshaw UMC Fellowship Hall, 4501 High Point Road in Greensboro.

N4IOZ Tom announced that links to all the NIMS classes have been added to the ARES section of the FARC web site- www.w4nc.org/ARES. Click on the link "Find out about those FEMA courses that you need to take".

Our EC - WK4CW Eric held the ARES meeting. He filled us in on Hurricane Earl passing by the NC coast and what frequencies has hurricane related traffic. There are more tropical systems behind Earl, so be prepared. The Shelby Hamfest is this weekend in Dallas, NC. Eric also requested more volunteers for the Tour to Tanglewood on Sept 25 and 26 and he is also looking for more net control volunteers. Contact Eric at WK4CW@arrl.net to volunteer for net control duties or for the Tour to

Tanglewood. Eric also announced that Tink Kanoy W4DCW became a Silent Key. He will be missed.
Formal Session - 43 minutes. Informal Session - 18. Total time - 61 minutes.

Sep. 9, 2010 - Forsyth County ARES Net Report

Net Started - 8:30 PM. Net Control - N4PAA Carl.

Check ins - 19. Stations were KJ4IC Bob (Echolink), W4KG Steve, KF4HHG Tim, W8LWX John, N4IOZ Tom, KB0WFM Kevin, KJ4SJZ Tim, NA4P Fred, WF4DD WFU Club, KJ4TGY Barry, KE4ZFN Bryce, WK4CW Eric, KI4SCH Joe, KC4WSK Van, KF4EOD Mike, AK4D Terry, KA4JRL Jason, KJ4SXH Ron and N4PAA Carl.

There was no traffic this evening.

NA4P Fred announced that the WF4DD net will be tonight a 9 PM or at the conclusion of this net.

Our EC - WK4CW Eric held a brief ARES meeting. He still needs volunteers for the Tour to Tanglewood on Sep. 25 and 26. He will have maps and more details at the Monday night FARC meeting. There will be no VEC testing at the Monday night meeting this month. Also, use the club web site link - www.w4nc.org/aRES to work on the NIMS courses required for participation in NIC structured events. Contact Eric at WK4CW@arrl.net to volunteer for the Tour to Tanglewood.

Formal Session - 18 minutes. Informal Session - 9. Total time - 47 minutes.

Sep. 16, 2010 - Forsyth County ARES Net Report

Net Started - 8:30 PM. Net Control - KC8OEX Terry.

Check ins - 18. Stations were WK4CW Eric, KF4HHG Tim, W8LWX John, N4PAA Carl, KJ4UYR Janice, W4KG Steve, NA4P Fred, AK4D Terry, KF4EOD Mike, N4IOZ Tom, N4EY Steve, KG4JWU Steven, KJ4SEN Chris, KB0WFM Kevin, KA4JRL Jason, KB6MTH Raja, KJ4ENM Ed and KC8OEX Terry.

There was no traffic or announcements this evening.

Our EC - WK4CW Eric held a very brief ARES meeting. He can use more volunteers for the tour to Tanglewood - Sep. 25 and 26 of this month. Contact Eric at WK4CW@arrl.net to volunteer for the Tour to Tanglewood.

Formal Session - 16 minutes. Informal Session - 37. Total time - 53 minutes.

Sep. 23, 2010 - Forsyth County ARES Net Report

Net Started - 8:30 PM. Net Control - WK4CW Eric.

Check ins - 15. Stations were WA4NOT Jim, KG4JWU Steven, KJ4IC Bob (Echolink), KC4WSK Van, WB9SZL Dale, AK4D Terry, W8LWX John, N4PAA Carl, NA4P Fred, WF4DD WFU Club, KC8OEX Terry, KF4HHG Tim, KA4JRL Jason, KG4FGC Ken and WK4CW Eric.

There was no traffic this evening.

NA4P Fred announced that the WF4DD net will be at 9 PM or at the conclusion of this net tonight.

Our EC - WK4CW Eric held the ARES meeting. The meeting was devoted to information on the Tour to Tanglewood - things we should bring, frequencies to be used, were to meet and about what to expect. Eric could still use more volunteers, so feel free to contact him at WK4CW@arrl.net if you can help out on either day of this event - this Saturday and Sunday at Tanglewood Park.
Formal Session - 34 minutes. Informal Session - 11. Total time - 45 minutes.

Sep.30, 2010 - Forsyth County ARES Net Report

Net Started - 8:30 PM. Net Control - N4PAA Carl.

Check ins - 19. Stations were WA4NOT Jim, W4KG Steve, KJ4IC Bob (Echolink), KJ4SXH Ron, WB9SZL Dale (Echolink), AK4D Terry, KF4EOD Mike, KG4FGC Ken, WF4DD WFU Club, W8LWX John, W4MJJ Jim, KE4ZFN Bryce, KC4WSK Van, WK4CW Eric, KJ4ENM Ed, KA4JRL Jason, KJ4UZU Clint, KC8OEX Terry and N4PAA Carl.

There was no traffic this evening.

KG4FGC Ken announced that the WF4DD net will be tonight a 9 PM or at the conclusion of this net. He also listed the two upcoming Skywarn Spotter training classes in Greensboro: Basic on Oct. 13 and Advanced on Oct. 14, both classes 7 to 9 PM at Hinshaw UMC Fellowship Hall, 4501 High Point Road in Greensboro.

Our EC - WK4CW Eric held a brief ARES meeting. He thanked all who participated in the Tour to Tanglewood. He gave some highlights of the event and listed the operators who helped out. He pointed out our rain storm should make us aware that the tropical season isn't over yet, so stay prepared. Anyone wanting more details on ARES, NIMS training, etc, should contact him at wk4cw@arrl.net.

Formal Session - 20 minutes. Informal Session - 11. Total time - 31 minutes.

FARC/ARES Reunion on the Air

Quick - what was your ARES number in 1993? I can't remember either. There was a time when the ARES net was so popular it took an hour just to get everybody checked in. So many that we had to check in by number. According to one list that has been unearthed by the FARC Archaeology Division there were 200 assigned numbers in 1993. Yes, some of you young whipper-snappers weren't around then, so you didn't have one.

FARC will celebrate its 80th official birthday this December 30. The club was actually around before 12/30/1930 but that was the incorporation date. Interestingly December 30 being a Thursday is also an ARES night. ***Tentatively*** that date has been picked to try and bring out as many of the old gang as can be rounded up. We might move it to another week since many people may be on vacation. Obviously you don't have to have been around then to participate - all are welcome. We might even assign more ARES numbers. We'll discuss it Monday night at the FARC meeting.

QRP Meetings on the First Monday

By Don WS4NC

This is a reprint of last month's article. We have had the first QRP Monday. There are still a few slots open so if you would like to build something get together an idea and a parts list - most likely I can supply the parts - and attend the first Monday at 1925A Vargrave St. Call me first to make sure there is a spot. If you are not sure what to build there are a lot of books with QRP and other ideas available for inspiration. We are not limited to just QRP or even ham radio projects but that is what most are interested in. Don WS4NC 336-413-3838

There are all kinds of reasons for not building stuff today. It is easier to just buy something. In real terms the costs are much lower today - electronics is anti-inflationary. To build you have to find the parts. They are easy to order but it does take some digging through on-line catalogs. Then there is the minium order. Taking apart junked gear isn't what it used to be. I built a lot of stuff from discarded TVs in the 1960s and 1970s. It's still doable today - one chap in England built a QRP transmitter from only the parts in a discarded compact fluorescent bulb. I think more of that can be done but it is a challenge identifying the parts and unsoldering them - many parts are the size of fleas today. And beside most of these parts are pennies new.

But then there is the mechanical-equipment issue. Certain items like metal sheers and benders are not in everyone's basement. Most people have a drill but a drill press is nice. Some holes are best done with a small milling machine or with metal punches. Ordering small quantities of sheet metal is sometimes an issue. Circuit board is great to work with but really needs a sheer to cut straight enough to make small enclosures.

And then there is test equipment. Most hams accumulate small pieces of test gear but precision test gear is expensive. (See rule 9!)

All of the above are reasons not to start a project. I have an offer to help fix all those things. We will start having the first Monday of the month - the QRP meeting - at my new shop at 1925A Vargrave St. All of the problems above are addressed. Small items like resistors and filter/bypass caps are available in quantity as well as small transistors and many ICs. Even ferrites/toroid. Circuit board by the pound almost. Tubes, if that's your thing, are around 70,000 and growing. I might get grumpy about really big sheets of sheet metal (aluminum is up 4X in the last few years) but making small cabinets is not a problem. And I have a number of small cabinets and ideas for cabinets.

If you are short of ideas there are hundreds of books available. Most of the

Doug Demaw books are here (rare now as they are out of print). And many ARRL publications - including multiple ARRL and other handbooks both old and new. There are two shelves of books of schematics of everything you can imagine. There are also many electronics reference and antique electronic books back to at least 1916. Math books to make your head spin. An entire shelf of tube references. I'm very touchy about my books - they don't leave the building but we can copy things. I would like to see them used.

Right now I don't have everything set back up from the move. It was a bigger job than I realized. But I am getting there. I moved from a small 16X24 space and many storage lockers to a 2200-sq.-foot facility (and fewer storage lockers). It's still too small, but it will fit. I do a moderate amount of consulting work some that might have to come first if there is a schedule conflict. My personal goal with all this Junque is to open an internet parts store and sell it all out in 3-5 years and then retire. I'll keep the books. My goal behind pushing the QRP group is to get FARC members back to building things again - there is no better way to learn. I think you just need a kick (that applies to me too). Here's the kick. This is a limited time offer, as they say. We'll see how it goes. If you want to participate sign the sheet Monday night at the FARC meeting - that's the only way.

QRP Rules (subject to revision):

1. You must be a dues-current member of FARC - this is a FARC project.
2. The group is limited in size - six would be about right - we might could push that to ten possibly. There will be a sign-up sheet Monday night. The sign-up sheet rules - first on first in.
3. You must have an ***identified*** project in mind with a schematic and a plan. We then pick the parts from there for your ***identified*** project. I'll donate the inexpensive parts. Expensive parts will be as you accomplish things - to encourage you to get things done. (This isn't just a run on my Junque Boxe.) To ease your conscience if necessary there will be a $ donation box - just to add to the Junque - this is not required but available.
4. It's not just limited to working in my shop - you also must do some work outside the shop.
5. None of my tools, books or test equipment will leave the shop. Especially the books.
6. You will probably need to get and bring your own soldering iron and small hand tools. I have a few but not enough for a group. Speciality tools are probably there.
7. Your mama doesn't work here - clean up after yourself. Put everything back where you got it.
8. Power tools only with supervision and safety goggles. One power tool you are always authorized to use is the vacuum cleaner. And brooms - they are human powered.
9. I will assist you with test equipment setups. I don't want you to transmit into a $20,000 signal generator or modulation monitor. That would not make me happy. There are scopes (up to 600 MHZ) and network analyzers (up to 18 GHZ) and spectrum analyzers (up to 22 GHz) and lions and tigers and bears, oh my. It's older gear but it's calibrated and works well.
10. How about repairing stuff? Well this is to encourage building things. We'll handle repairs on a case-by-case basis. I'm not fixing your junk - but I may let you do that- see item 9.
11. To keep my insurance agent from having an aneurysm - you need to sign a waiver accepting personal responsibility for yourself and absolving me, FARC and God from your, mine and others stupidity. I know that personal responsibility is a new idea. I hope I don't regret this - please help me not regret this.

A New Output Filter for the Tuna Tin 2

I happy to report that some people are still homebrewing goodies. Wayne Stanley W4RDG is retired from Western Electric where he specialized in filter design for military customers for over 20 years. Stan is the expert I turned to about 30 years ago when faced with an impossible filter design problem. He advised me "not to touch it with a ten-foot pole". I'm not sure he meant the filter-math pun on the word "pole", but it stuck with me. Stan has been retired for 15 or more years so he goes back to the days when the computer was a slide rule. He recently sent me the following article about his design for an alternative matching network for the almost ubiquitous Tuna Tin 2. If you hate toroids then this is for you.

The Tuna Tin is probably the most recognized homebrew transmitter, originally published as a tube circuit and then made popular again as a transistor design.

I'm not sure what most people have against winding toroids - most aren't that hard to wind - but it is very acceptable to take the high road around toroids when none are on hand. Stan is to be commended for his excellent design work. I am publishing his design not to intimidate but to inspire - most hams don't have this background. For those that do I challenge you to work through his design. This would be a challenge to a recent Associate-Degree graduate in electronics. If you just memorized the book for the Extra -class this is probably a wee bit too heavy. If all you want to do is build a Tuna Tin 2 - feel free to copy his design when you build.

Some notes: An image parameter filter is essentially a low-pass and a high-pass circuit that has the same impedance looking either toward the load or toward the source at any point - though I'm not an expert here. The other design choice would be an insertion-loss filter which is today calculated on a computer - the equations by hand are intimidating. I accepted Stan's starting assumptions and worked through the math. The output impedance of a class-C RF transistor circuit, to a very good approximation, is power-supply voltage (Vcc) divided by collector current (Ic) - in this case 12.5 volts divided by 50 ma is exactly 250 ohms, hence the need for an impedance transformation to match a 50-ohm load. The Z-transfer could also be estimated on a Smith Chart - but where is the fun in that?

I built a duplicate of Stan's circuit and essentially verified his result (OK after I fixed my stupid wiring mistake). I wound my coils on a ½-inch drill bit (not having phenolic cores) and covered them with Q-dope and let them dry overnight. I verified the coils (exactly on the numbers!) and matched capacitors closely to his calculations on an HP impedance meter. This is an elegant piece of work Stan!

An Alternative Impedance-Matching Filter Network for the Tuna Tin 2 Transmitter

By Wayne Stanley W4RDG

I recently decided to build a breadboard version of the Tuna Tin 2 40-meter QRP rig described by Ed Hare W1RFI in the march 2000 issue of QST.

Since there were none of the T-37-2 and FT-37-43 toroidal cores on hand, I decided to redesign the impedance-matching filter located between transistor Q2 and the 50 ohm output port. As stated in Ed's article, it is necessary that any such network must have ample bandwidth across the 40-meter band and also that the spread of LC element values be minimized. The alternative network meets these requirement and like the original, it needs no tuning adjustments, providing that the capacitance values are reasonable accurate.

The modified network is an image-parameter band pass filter with a theoretical bandwidth of 34 percent. In order to obtain a five-to-one impedance ratio, a Norton capacitive impedance transformation was incorporated in the design. The three capacitors in the network are silver-micas and the inductors are of the solenoid type, close wound on a 0.5 inch diameter phenolic tube. The wire is number 20 AWG with enamel insulation. These inductors, designated as L1 and L2 in Figure

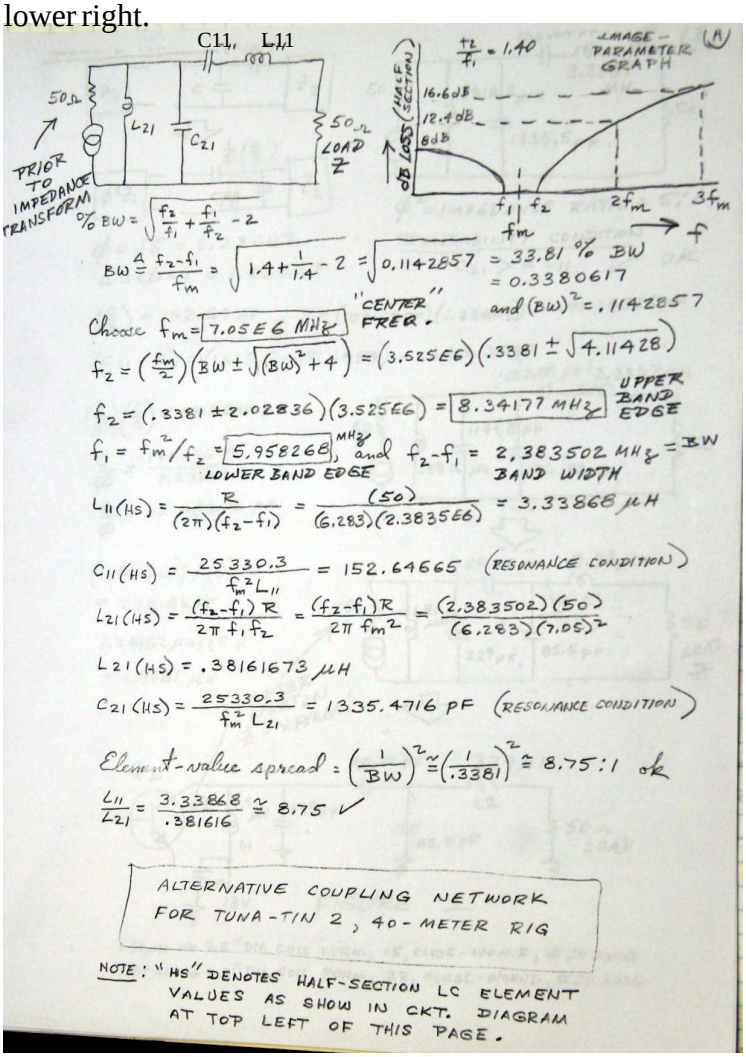
1 have 14.75 and 22.25 turns of wire respectively. [*Editor: just wind the coils to the closest whole turn, when mounting the inductors they must be at right angles to work properly.*]

Before placing this matching network into the 40-meter QSO rig, it input port was connected to a Boonton Radio Corporation type 250-A RX meter and a 50-ohm non-inductive resistor was connected to its output port. I measured a 250 resistive component in parallel with 2.8 picofarads of capacitance. This corresponds to a return loss of around 36 dB, i.e. A good impedance match. [*Editor: 36 dB return loss is equal to VSWR of 1.03:1.*]

The matching network was then removed from the RX meter and wired into the modified Tuna Tin 2 rig between transistor Q2 and the 50 ohm load port as shown in Figure 1.

Using a 7.005 Megahertz crystal and a 13 volt de supply applied to the transmitter I measured 50 ma of collector current through Q2. The RF voltage across a 50-ohm load resistor was measured with a wide-band oscilloscope. The 12 volt peak-to-peak waveform approximated a fair sine waveform. The amounts to about 360 milliwatts of power in the load resistor.

Page 1 of Stan's notes is printed below on the left. Page 2 is on the right. Again Stan is a professional in filter design so don't be intimidated by not being able to follow his design. If you want to duplicate his circuit just go to Figure 1 in the lower right.



Homebrew Show-&-Tell is the November Meeting!

Don't show up without something to show! Well if you don't have something still show up, but . . . There's still time.

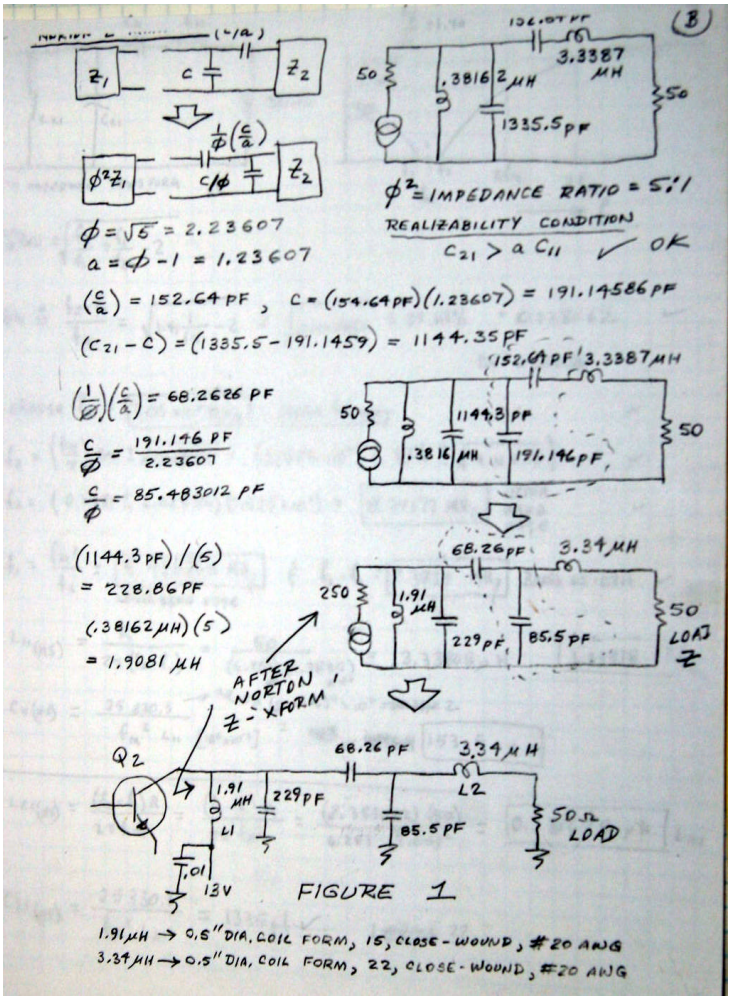
Looking for Past FARC Members

We are looking for information on the two following past FARC members. First is **John Elliott Rutherford**, there is a picture of him with other FARC members around 1939. The second is **Fred Slipsanger WA4ZZ, ex-KQ4WD** who died perhaps 5 years ago. The family of both these hams are looking for any information you may have. If you remember these hams please email WS4NC <at> dwepe.com.

Go Bags - Is Yours Ready?

Don, WS4NC

"I wish I'd been more prepared." Don't say that after the fact. Check out the many sources on line. Hopefully next year we will have a program on Go-Bags with a show and tell. You can do what I did and order a packed bag from the Red Cross at their national web site. It can be customized for ham requirements.



Forsyth Amateur Radio Club, Inc.
PO Box 11361
Winston-Salem, NC 27106-1361
336-245-5740

The Pfafftown Hamfest
THIS STAURDAY!
Saturday October 9, 2010
8AM - 12 Noon

Moment of Zen

What's New in Radio

From April, 1934 Radio News and Shortwave Magazine

"Dual Buttonhole Microphones

Description--The photograph shows two Universal double-button lapel microphones corded together, an arrangement which allows the speaker complete freedom to move around the platform and address audience in a natural manner and still maintain constant volume lever. The microphone is sturdily constructed and the cord terminals are securely held by screws in metal anchors imbedded in the polished Bakelite housing.

Maker--Universal Microphone Co., Ltd, Inglewood, Calif."

I found this while looking through old Radio News magazine. I laughed out loud - not only for the seriously lame photo - but imagining how "natural" it would be to walk around while connected by wires - especially 1934 wires. I can't be the only one who found this seriously dorky - even by 1934 standards.