



Arc Over

Fox River Radio League
PO Box 673
Batavia, IL
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August, 2005

President's Traffic

by Dick Illman, AH6EZ

There may be the makings of a drought in Illinois but there certainly has not been a shortage of activity at the FRRL. Field Day was a great success with lots of busy stations, enthusiastic operators, new people getting on the air, and the great NextGen group for our youth. At the time of this writing, I have not seen the full point tally or compared it with recent years but I think that we collectively held our own with the 8A operation and had a lot of fun. Thanks to W9HI, N9CHA, and all of the supporting cast for getting things together.

W9XA coordinated a wonderful Hamfest at the Catholic Central Aurora High School. It was well attended and according to early information, we did make money. Pam, Caron, and Greg provided a mobile water service outside in the parking lot in the 90 degree heat. This was a big hit with everyone. Thanks to the whole team who pitched in to make our major fund raiser of the year a success.

Last night (July 29th) many of us attended a Kane County Cougars baseball game. Although the game went into extra innings, the Cougars won and the fireworks display was excellent. Thanks to N9CHA for taking over this social event from W4CEO.

Mark down October 23 on your calendars for the Illinois QSO Party. This is a fun operating event/contest. It is a great way to have fun operating portable in an Illinois County, or mobile, or from home on 160-2m. Check out the web site at <http://my.core.com/~jematz/ilqp/ilqphome.htm>. In the past, the FRRL has been a major participant in this event (we even won the club competition once), but interest has fallen off over the past few years. I'm hoping that we can rekindle interest this year and get more of our members involved.

Our program for the August meeting will be a video tour of the Motorola Museum. The Museum is currently in the process of being moved, and many of the items on display will probably go into storage. N9CHA and I were lucky enough to take a tour before the packing started, and Greg recorded it on video. This may be your last opportunity to see some historic radio equipment for quite some time.

73—see you at the meeting,

Dick Illman, AH6EZ
FRRL President

Meter Matters

By Dave Holdeman, N9XU

Background

While looking through the April, 2005 QST, I noticed an article that mentioned the availability of a computer program that allows one to design and print custom meter faces on a computer. I have several 3 1/2 inch meters (circa 1960-1980) that were pull-outs from old Western Electric microwave equipment. The meters all have 0-1 MA, 50 ohm internal resistance movements with dual scales and are made by 3 manufacturers. Triplett, Simpson and Western Electric. The cases are clear plastic and the meter fronts are in fairly good shape with a minimum of scratches.

The Triplett and Simpson meters are pretty conventional with the zero adjustment near the lower center edge of the meter face and standard 90 degree deflection scales. The Western Electric meters are different with the zero adjustment in the center of the meter face (similar to a clock face) with a scale deflection of 170 degrees. A copy of a Triplett meter face is shown in figure 1 and a Western Electric in figure 2.

I have several power supplies in my shack that are un-metered so I thought I would convert some of the meters to voltmeters (0-25V) and some to ammeters (0-25A). I picked these ranges so all the numbers on the new meter scales would be identical and I would be less likely to make mistakes.

I visited the Tonnesoftware web site (<http://www.tonnesoftware.com>) and filled out an order form on line for the software. I was informed via e mail, that my visa card would be debited \$24.95 and sure enough it was. Once everything was confirmed, I was able to download the software and put it to work.

Preparation

The software requires that one input various dimensions of the meter face and the locations of the meter face mounting and pointer holes. The next step is to input scale information such as range, amount of arc and type of scale desired such as volts or amperes, DC or AC etc. Most inputs are in degrees or millimeters.

In order to get these dimensions, I found it was best to disassemble the meter, remove the meter face and make one or two Xerox copies of it. Using a fine millimeter ruler and a protractor, One can obtain the required information off the Xerox copy and avoid possible scratching of the meter face.

Input

As mentioned, one inputs the various meter face information as to size, mounting holes and pointer information. One then inputs scale information such as arc, color, font, tic marks and pointer swing in degrees. The two inputs are somewhat interactive, but it is easy to switch between the two and come up with a final result.

The output is one file. Save the file and print it out. The result will be your new meter scale. Superimpose it over the meter face or one of the Xerox copies of the meter face and note if what you see is to your liking. You will probably have to fine tune the results somewhat. Do not make any wild changes to your original inputs, but change the inputs incrementally until you are satisfied with your new meter scale. I had no problem coming up with nice scales for the Simpson and Triplett meters, but the Western Electric meters with their center zero adjust and 170 degree deflection gave me trouble. I ended up sending a Xerox copy of the scale to Jim Tonne of Tonne Software so he could experiment with it. He E mailed me back a file copy of his results. After a slight bit of editing I had two nice scales 0-25 volts DC and 0-25 Amperes DC. See figures 3 and 4.

Printing and Mounting

At first I tried using ordinary printer paper to create the scales and double backed Scotch Tape to secure them to the back of the original meter face. This worked fairly well, but I found that Kodak Bright White inkjet paper worked and looked better. It is a little thicker than standard paper and is easier to work with. To mount the new scale, I ended up with 3M Spray Mount Artist's Adhesive instead of the Scotch Tape. This comes in a spray can and is available from Staples. My printer is an older Cannon black and white ink jet and the results look quite good. If I had a laser printer, I suspect that the new scales would look as good or maybe better than the originals.

(Continued on page 3)

Meter Matters
(Continued from page 2)

Shunts and Multipliers

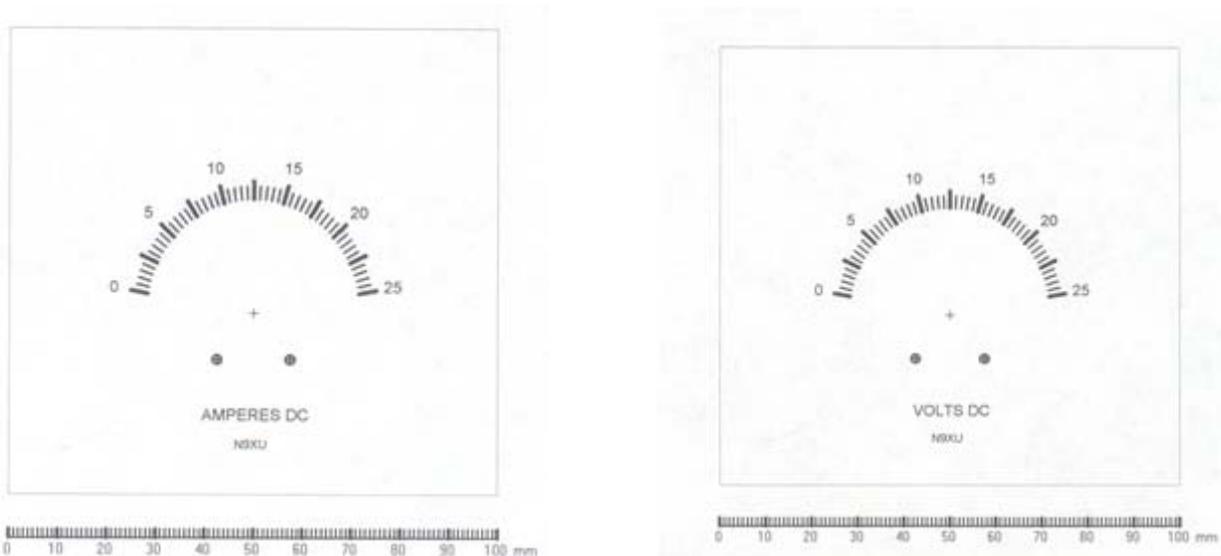
When making an ammeter out of a milliammeter, one needs a shunt in parallel with the meter to route most of the current around the meter and avoid meter burnout. Using the wire tables in the Handbook and Ohm's Law, I determined that about a foot of number 14 solid house wire would make a good shunt. Make it slightly longer than necessary and calibrate the whole arrangement against a known meter, trimming and resoldering the shunt as you go. Remember a longer shunt has more resistance directing more current through the meter. Use heavy soldering lugs while building the shunt and solder them well. You are dealing with fractions of ohms here. My shunts ended up being 4 1/2 turns of number 14 solid wire wound on a half inch dowel rod.

Making a voltmeter out of a milliammeter is much easier. All you need is the proper resistance in series with the meter. The Western Electric meters needed 25,000 ohms for a multiplier while the Simpson needed a 24,000 and a 3,900 ohm resistor in series for the proper deflection.

Conclusion

Using the meter face software has been lots of fun and I have put to use several meters that were gathering dust in my junk drawer. If I had a color printer, I could change the color of the scales as the software is color sensitive. The software allows one to input up to 2 different color scales on one meter face.

73,
Dave Holdeman, N9XU



Samples of Dave's finished meter face graphics. These are scanned images, so they are not as crisp and sharp as the original items.

FCC PROPOSES DROPPING MORSE CODE REQUIREMENT

From the ARRL Letter, 7/22/05

The FCC has proposed dropping the 5 WPM Morse code element as a requirement to obtain an Amateur Radio license of any class. The Commission included the provision in a July 19 Notice of Proposed Rule Making and Order (NPRM&O) in WT Docket 05-235, but it declined to go along with any other proposed changes to Amateur Service licensing rules or operating privileges. Dropping the Morse code requirement or any other changes to Part 97 would not become final until the Commission gathers additional public comments, formally adopts any new rules and concludes the proceeding with a Report and Order specifying the changes and an effective date. That's not likely to happen for several months.

"Based upon the petitions and comments, we propose to amend our amateur service rules to eliminate the requirement that individuals pass a telegraphy examination in order to qualify for any amateur radio operator license," the FCC said. The NPRM&O consolidated 18 petitions for rule making from the amateur community. Several petitioners simply asked the FCC to drop the Morse requirement, but some--including the ARRL--also proposed a wide range of additional changes to the amateur rules. The FCC said the various petitions had attracted 6200 comments from the amateur community, which soon will have the opportunity to comment again--this time on what the FCC calls "our tentative conclusions" in its NPRM&O.

The Commission said it believes dropping the 5 WPM Morse examination would encourage more people to become Amateur Radio operators and would eliminate a requirement that's "now unnecessary" and may discourage current licensees from advancing their skills. It also said the change would "promote more efficient use" of amateur spectrum.

To support dropping the code requirement, the FCC cited changes in Article 25 of the international Radio Regulations adopted at World Radiocommunication Conference 2003. WRC-03 deleted the Morse testing requirement for amateur applicants seeking HF privileges and left it up to individual countries to determine whether or not they want to mandate Morse testing. Several countries already have dropped their Morse requirements for HF access.

ARRL CEO David Sumner, K1ZZ, said he was not surprised to see the FCC propose scrapping the code altogether, although the League and others had called for retaining the 5 WPM requirement for Amateur Extra class applicants. Sumner also expressed dismay that the FCC turned away proposals from the League and other petitioners to create a new entry-level Amateur Radio license class.

"We're disappointed that the Commission prefers to deny an opportunity to give Amateur Radio the restructuring it needs for the 21st century," he said. "It appears that the Commission is taking the easy road, but the easy road is seldom the right road."

Sumner said ARRL officials and the Board of Directors will closely study the 30-page NPRM&O and comment further once they've had an opportunity to consider the Commission's stated rationales for its proposals.

In 2004, the League called on the FCC to create a new entry-level license, reduce the number of actual license classes to three and drop the Morse code testing requirement for all classes except for Amateur Extra. Among other recommendations, the League asked the FCC to automatically upgrade Technician licensees to General and Advanced licensees to Amateur Extra. In this week's NPRM&O, the FCC said it was not persuaded such automatic upgrades were in the public interest.

The FCC said it did not believe a new entry-level license class was warranted because current Novice and Tech Plus licensees will easily be able to upgrade to General once the code requirement goes away. The Commission also said it already addressed some other issues petitioners raised in its "Phone Band Expansion" (or "Omnibus") NPRM in WT Docket 04-140.

The NPRM&O is on the FCC Web site <http://hraunfoss.fcc.gov/edocs_public/attachmatch/FCC-05-143A1.pdf>

A 60-day period for the public to comment on the NPRM&O in WT 05-235 will begin once the notice appears in the Federal Register. Reply comments will be due within 75 days.

Bill Erickson HF Challenge Scores

Here are the latest standings received for the HF Challenge. Hopefully the summer band conditions are fading and things will get better as the days shorten and the static fades. Remember to email your updates to challenge@frri.org by the 15th of each month.

Ragchew Class	States/Provinces	DX Countries	Total
AL9A	-	-	43
AH6EZ	-	-	15
NA9A	-	-	11
W9DTR	-	-	4
K9FE	-	-	1

Operator Class	States/ Provinces	DX Countries	Total
K9JE	46/10	115	171
W4CEO	48/7	112	167
K9MMS	50/10	79	139
W9DTR	22/7	81	110
K9FBI	43/5	42	90

Limited Class	States/ Provinces	DX Countries	Total
KB9YSI	35/2	31	68

QRO Class	States/ Provinces	DX Countries	Total
AH6EZ	48/9	144	201
AL9A	50/10	129	189
NA9A	9/2	155	166
W0HED	50/7	77	134
K9FE	15/0	4	19

FRRL Club Nets

The regular weekly FRRL 2 Meter Net takes place every Tuesday evening at 7:30 pm local time, except on meeting nights, on the W9CEQ repeater, 147.210 MHz. +600 KHz, 103.5 access tone. The Next Gen Hams Nets take place on the 2nd and 4th Wednesday evenings of each month at 8:00 pm local time on the NIARC repeater, W9ZGP—146.580 MHz., +1.08 MHz. (147.660).

FRRL Hamfest a Success

By Kermit Carlson, W9XA

Well, the FRRL 2005 HAMFEST is history! With the help of almost all of our membership we have completed yet another site-filling event. Even though the temperature and humidity on the morning of July 10th flirted with tropical, everything went fine.

This year we only had two tables left empty in the inside arena after a pre-paid vendor did not show. The gate sales were swift in the morning but just as most hamfests, the overall attendance is still down from a decade ago. This, despite the fact that at 9 AM we had started to park people along the entrance and exit roads and again, attendees completely fill our site.

The first FRRL hamfests I attended were free events at Phillips Park in the 1960's; although we have outgrown that style of gathering, the small, unhurried, and friendly nature of our hamfest is enjoyed by our attendees. As long as our club membership enjoys producing the hamfest and our turn-out proves that the effort is well received by the area amateur community, we will continue this fine tradition.

A last-minute change by the school's Booster Club left us having to provide our own coffee and pastries; a sincere thank you to Greg Braun, N9CHA, and his "instant committee" for providing the food concession. Although this year only one truly disappointed person was turned away wanting an early-morning HOT-dog, most everyone else seem pleased with the menu. The hot seller was chilled bottles of water for 25 cents each.

I am planning to have the arrangements for next year's event announced soon and I welcome any and all FRRL members with comments to contact me with their suggestions. Thank you again for your support!

73,
Kermit W9XA

Solar Flux

By Bill Muhr, KB9YSI

Wow! It's August. Where does the time go? The only good thing about time passing by this fast is that we are getting closer to the bottom of the sunspot cycle. Conditions on 10 meters will get better in a couple of years. I can't wait.

In the meantime we can all just keep plugging away, making contacts when and where we can. If the current HF conditions have you down, take a look at VHF/UHF operation using SSB or CW. It can be great fun. There have been some very interesting tropo openings on 2 meters recently, and trying to make contacts across the lake has been very interesting.

Here's a reminder — if you are emailing an article or information for the ArcOver, please make sure that you mention FRRL or ArcOver in the subject header of your email. Due to the nature of my internet activities I need to run a very aggressive spam filter, and I suspect some ArcOver items have been eaten by the spam machine. If in doubt, please call me before mailing, and I'll give you a special, non-filtered email address to use.

73 for now,
Bill, KB9YSI

About the FRRL

The Fox River Radio League, Inc., is a general interest amateur radio club serving the central Fox River Valley area. Records indicate the club has been in existence since at least 1924, and has functioned continuously ever since. We are an ARRL Special Service Club, an Illinois not-for-profit corporation, and a 501©(3) tax exempt organization as specified in IRS Statutes.

We sponsor training classes for new hams,

license examination sessions, an annual hamfest, and participate in various public service events. If you have a specialized amateur radio interest, chances are you can share it with one or more of our club members.

The Fox River Radio League meets on the 2nd Tuesday of every month at the Prisco Community Center in Aurora, Illinois. The meeting begins at 7:30 PM. After conducting business, coffee and

snacks are served while we socialize. Following the break, a program of interest will be presented. All persons interested in amateur radio are invited to attend. Families are welcome. *We hope to see you there!*



License Exams

The Fox River Radio League, Inc., in conjunction with the ARRL VEC, conducts amateur examinations on the 3rd Tuesday of January, March, May, September and November in the basement of the Prisco Community Center, 150 W. Illinois Street, (South East corner of Lake and Illinois) in Aurora, IL. at 7:30 PM. No advance registration is required, but please be sure to

bring your license (if you have one) and a photocopy of it, original CSCES and a photocopy (if needed), some form of photo identification, and the fee of \$14.00. (The FRRL receives no portion of this fee.)

The next exam session is scheduled for September 20, 2005, at the Prisco Community Center in Aurora, IL. At 7:30 pm

FRRL Dues

Annual dues are payable no later than the January Club Meeting each year. Persons joining during the year will have their first year's dues prorated to the nearest yearly quarter.

Regular dues are \$20.00 a year, Senior Citizen dues are \$12.00. Family dues are \$30.00. You can also help support the FRRL Repeaters by joining as a combined Club/ Repeater member for \$30.00. Repeater dues are \$20.00.

Check with the Treasurer for details and additional dues rates.

Nets

Net Name	Freq.	Day	Time
FRRL	147.210	Tuesday	7:30 PM Local
10-10 CW	28.150	Monday	8:00 PM Local
10-10 SSB	28.720	Monday	8:30 PM Local

Fox River Radio League

Founded 1924

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FRRL CLUB MEETINGS ARE HELD AT THE PRISCO COMMUNITY CENTER AT 150 WEST ILLINOIS STREET IN AURORA. PLEASE CHECK THE FRRL WEB SITE FOR A MAP TO THE MEETING LOCATION .

<http://www.frri.org>

Send Address Corrections to:
 Fox River Radio League, Inc.
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 St Charles, , Illinois
 60175

FRRL Event Calendar

August, 2005

FRRL Board Meeting 2
 FRRL Meeting 9
 Next Gen Net 10
 Next Gen Net 24

September, 2005

FRRL Board Meeting 6
 FRRL Meeting 13
 Next Gen Net 14
 VE Testing 20
 Next Gen Net 28

Handy Web Links

FRRL Web Site	http://www.frri.org/
ARRL Main Site	http://www.arrl.org/
ARRL Central Div. Site	http://www.central.arrl.org/
ARRL IL Section Site	http://www.central.arrl.org/illinois.html
ARRL IL Section News	http://www.arrl.org/sections/?sect=IL
ARRL Contest Page	http://www.arrl.org/contests/
Contest Calendar	http://www.hornucopia.com/contestcal/
Callsign Lookup (QRZ)	http://www.qrz.com/
Vanity Callsign Info	http://www.vanityhq.com/
IRLP Main Page	http://www.irlp.net/
AMSAT	http://www.amsat.org/
FCC Services	http://wireless.fcc.gov/services/amateur
SMC Contest Club	http://www.w9smc.com/

ArcOver FRRL Newsletter

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The ArcOver is published monthly by the Fox River Radio League, Inc. Articles and letters are always welcome. The normal deadline for material is six days prior to the end of the previous month. Articles can be sent by email to arcover@frri.org or via U.S. Mail. Contact the Editor for details and submission guidelines.

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Local Area Repeaters

W9CEQ—147.210 Mhz. *
 +600 KHz, 103.5 access tone
 Owned by FRRL

W9CEQ—444.300 Mhz. IRLP Node # 4850
 +5 Mhz, 114.8 access tone
 Owned by FRRL

W9ZGP—146.580 Mhz. **
 +1.08 Mhz (147.660)
 Owned by NIARC

KC9OEM—145.470 Mhz.
 -600 KHz, 103.5 access tone
 Owned by Kane County OEM

W9XA — 224.40 Mhz, +5 Mhz, IRLP Node #4846
 — **443.65 Mhz, +5 Mhz**
 — **1292.00 Mhz, -20 Mhz (1272.00)**

- Weekly FRRL Net—Tues. Eve. at 7:30 pm local time.
- Next Gen Youth Ham Net—2nd and 4th Tuesdays of each month.