The eKilo - What

July 2013

PRESIDENT'S MESSAGE

I really do not have much to report for this letter given that Matt Healey provided the minutes for this issue. I would, however, like to take this opportunity to think for a moment about what Ham Radio is all about. In the beginning most "on air activity" was confined to mostly local QSOs in that good receivers and high power transmitters were the exception rather than the rule. In order to get messages delivered over any distance, it was necessary for it to be relayed by one or more stations. The American Radio Relay League (ARRL) was organized to provide a formal structure for relay stations in a national network to facilitate the movement of messages across the country. In the December 1915 QST "Radio Relay Bulletin" it is announced that the ARRL has an organization of over six hundred relay stations. Traffic handling was the most frequent activity in which most amateurs participated. It was a point of pride among radio amateurs to be an active participant in this large network of stations. From the beginning, radio amateurs have been providing a public service by putting in place a system of backup communications to support the public in times of need. Even today, hams continue to provide vital communications when commercial providers are unable to do so.

We should also remember that commercial equipment was either not available or very expensive. Due to their strong desire to "get on the air", hams usually built their own gear using parts and pieces scrounged from whatever sources might be available. This brings me to the experimenter. Over the years, many of the advancements in the art and science of radio came from the ingenuity of radio amateurs. As was often the case, many of these discoveries came about by happenstance. It was not unusual for the individual responsible for a particular development to not understand the principles behind his discovery, understanding only that it worked! Lee Deforest, who came up with the triode vacuum tube (the Audion), by his own admission did not fully understand how it worked. This device became the foundation upon which the development and growth of radio broadcasting was built.

Because of this foundation of public service and innovation, Amateur Radio has been deemed worthy for the vast frequency spectrum allocations that we enjoy today. I believe that the amateur radio service has what is probably the largest allocation of radio frequencies of any service using the electromagnetic spectrum.

I think that all of us have an obligation to continue that legacy by providing emergency communications whenever we can and trying new concepts as we putter around our stations. Innovate and enjoy!

Contrary to the feelings of some, we have no "right" to use these frequencies. I feel that it is a privilege that we as radio amateurs have earned over the years and continue to justify with each passing day.

Thanks for your time, 73, Tom K4OTM

Club News

Meeting Minutes for July 11, 2013.

Called to order by Tom Austin, K4OTM at 7:30 pm.

Meeting opened with the Pledge Allegiance.

Motion was made to accept the minutes of June's meeting as presented in the Kilo-What; the motion carried.

Motion was made to accept the financial report as presented by Bob Freeman, KD5PIX; motion carried.

Marcus O'Quin, KF5GKC asked to see if someone could take his position as Grounds Chairman. Marcus is not able to continue in that position.

Dave Behrnend, KB5FNK won the split the pot. Congratulations Dave!

There was a discussion on the clubs birthday party on October 12th. Several members thought it would be a good idea to have a "tail gate" party at the same time. No action taken.

Motion was made to adjourn at 8:25pm. The motion carried.

Minutes taken for Bob Freeman, KD5PIX - Secretary/Treasurer and submitted by Matt Healy, W5MAT

Oooops!

Sweetwater, page 10, is on I-20. I know you all knew that!

What? More homebrew? Page ?.

Club News

Field Day Scoring Report

Submitted by Buddy/KD5SBE:

Call Used: W5QX
GOTA Station Call: W5MAT
ARRL/RAC Section: WTX Class: 3A

Participants: 66
Power Source(s): Generator, Solar
Bonus Points:

100% Emergency power	300
Media Publicity	100
Set-up in Public Place	100
Information Booth	100
NTS message to ARRL SM/SEC	100
Satellite QSO completed	100
Natural power QSOs completed	100
Site Visit by invited served agency official	100
Submitted via the Web	50
Total Bonus Points	1,050

Score Summary:

	CW	Digital	Phone	Total
Total QSOs	4	135	168	307
Total Points	8	270	168	446

Claimed Score = 892

Band/Mode QSO Breakdown:

	CW QSOs	Digital QSOs)	Phone QSOs
40m	4	37	109
20m		94	35
15m		4	
Satellite			2
GOTA			22
TOTAL	4	135	168

TOTAL SCORE - 1050 + 892 = 1942
LAST YEAR - 2184

Scanner Jack's Corner

THESE ARE THE MILITARY TRAINING FREQUENCIES, AM MODE: 148.625, 225.275, 227.800, 249.425, 252.100, 257.200, 259.100, 261.000, 261.025, 262.325, 264.600, 267.500, 269.250, 274.500, 275.400,277.800, 278.300, 278.800, 282.200, 282.425, 282.800, 283.900, 290.225, 290.300, 292.150, 292.200, 303.000, 305.600, 313.000, 344.700, 351.900, 357.000, 357.900.
From SCANNER JACK ROBERTS KB5TMY

Jack, KB5TMY, is available at (325) 651-4840.

OPERATING

Radiosport

This is the final installment of Radiosport Tips as appeared in the Brazos Valley ARC Newsletter in the May, 2013, issue and was prepared by Ron/K5HM. His work has been edited for the *eKilo-What* and appears in this issue with Ron's permission. Thanks Ron. *–Ed.*

Part 3

• **Learn a Single Band -** Many, if not most, contests operate on a 48-hour clock. So you get two full days of activity, two cycles to learn and two opportunity to see how things work. This is a perfect environment for learning how a single band works for propagation.

A band operates differently over the course of a day and night; the full 24-hours is rarely used by an amateur radio operator to learn about how a band operates. Normally in a contest, we'd rarely check all the paths because we're too busy running on the hot and. But using the contest as an activity booster in a 48-hour time frame allows the ham operator to learn about a single band in a short period of time. If you're looking to improve your understanding of a band's propagation, enter a contest in the single band category. You'll learn about your band in a hurry.

• Do an After Action Review.

What was expected to happen? This is where the importance of some level of goals for a contest is needed. Having an objective for the contest is the basis of knowing what was expected.

What actually occurred? At the end of the contest, where did we end up in comparison to the goals we had for this particular contest?

What went well, and why? Here we analyze the events of the contest to figure out what went well and why.

What can be improved, and how? Here we try and figure out what needs to be better next time. Perhaps it wasn't testing the antennas before the contest, not reading the contest rules beforehand or not getting enough sleep. Whatever it was, this is the place to note the areas of improvement.

• Learn from contesting pros. Contesting pros are all over the place; on the air, quoted in print, and self-revealing in their write ups about the contest. Yet, many of us ignore the lessons being taught. One of the best ways of learning from a contesting pro is listening to that person running during a contest or working a pileup for that new multiplier. Another way is to learn how a station should be set up is by examining the pictures that shows the placement of the hardware, computer, and logging windows used by the contesting pro. Subscribe to the ARRL National Contest Journal (www.arrl.org/ncj) and read it. There are many tips of the trade revealed there. A number of the top contesting clubs have websites with extensive material on contesting available for free. Here are a few:

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Yankee Clipper Contest Club www.yccc.org

Central Texas DX and Contest Club www.ctdxcc.org

DFW Contest Group www.dfwcontest.com

• **Leverage your strengths.** One of the truisms in corporate life is to "leverage your strengths" so as to better your performance. Too often, we try and be all things to the contest world and stretch ourselves too thin. You may be great at CW and not as good at SSB. Many of us ignore the reality of our equipment and geography. Instead of trying to be number one in the world in DX contests when we have a dipole and a hundred watts, we should focus our efforts on contests where a dipole and a hundred watts would give us the best advantage.

• **Go on a contesting DXpedition.** You don't have to leave the country to go on a "DXpedition." This year I went down to Mustang Island State Park and operated in a contest. We also activated the island as NA-092 for IOTA credit. There are some good reasons to go to that relatively rare location one for a contest:

The other end of pileups. Yes, they ARE different on the other end from where you've been calling for most of your ham radio career. How to handle them is a skill you can quickly learn.

Speed of operation. Because you are rarer in the contest, the activity stays up longer and operates faster. If you are familiar with "speed" in sports, then you'll be able to relate that DXpeditions up your speed game.

Logistics. Picking up everything and going somewhere to operate provides a completely new set of challenges. Going through the logistics experience helps you understand what is important for operating — helping you set priorities for your own station back home.

Motivation for the contest. You made the trip. You are more likely to be committed to the contest then if you were surrounded by all of the comfort — and distractions of home.

• **Practice CW before contests.** People are often amazed how fast the CW was for the stations doing the running. By the end of the contest, no matter what, I was also much faster at my CW speeds then I was before the contest started. So start practicing CW before the contest, just to get into the groove of the dits and dahs. Get a feel for the wall of CW that starts a contest.

• **Participate on a contesting team.** Some contests is having a "team" category. The idea is that a group of people can get together and form a contesting "team" and have each of their scores contribute to an overall team score for the contest. This is different from a club score. The team size is usually smaller than the entire club. Each operator is operating as a single operator during the contest but the overall score goes to a team.

The advantages of a team are pretty interesting:

• **Your commitment to the contest increases.** Because you are part of a team, you will spend more time in the contest.

• **Your competitive nature will increase the score.** Who wants to have the lowest score on the team?

• **You will focus more on the score.** Capture those elusive multipliers. Look for weird openings during the contest. Really up your contesting game.

Have more fun. Teams often will instant message back and forth on how they are doing in the contest, keeping up the interest and the fun.

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• **Find the joy in contesting.** It all comes down to joy. Contesting is exceptionally challenging. Whether entered competitively or simply as an afternoon break on a Sunday, are demanding. Equipment must work the way it was designed. Computers need to have all of their interfaces working. The body need to be in shape for the time we will spend contesting. And your head needs to be in the contest.

The great thing for me about contesting is this ability to let the rest of the trials and tribulations of the world fall away for the duration of the contest. The contest, because of the focus on the operating, becomes the "flow" experience where time melts away.

So my final contesting tip is simple: find your joy in contesting.

Reporting from The Dark Side—Ron, K5HM

OF INTEREST

Sam/K5OAI wrote:

and you thought predicting rain was a tough job....
sm

http://www.youtube.com/watch?v=6j4bl57D_1U

This short video on the solar cycle is worth a watch. –*Ed.*

TECHNICAL

A COMPARITOR TOOL

The "Capacitance Tool" (*eKilo-What*, June 2013) was calibrated using fixed capacitors of known value to mark the dial. This was accomplished using a bridge circuit. One basic bridge is shown in Figure 1. Branches A-B and A-D contain resistors of equal value. Branch D-C is the known (reference) branch and branch D-C is the unknown impedance. A voltage is applied across A-C. When B-C equals D-C, zero voltage appears across D-B. The applied voltage may be dc, ac, or AM modulated ac depending on the measurement to be made. The actual circuit used is shown in Figure 2. The input transformer steps up the voltage and also provides dc isolation for the bridge, reference and unknown impedance. The maximum input voltage, for the resistances shown, is about 7 volts, and for very low B-C and D-C impedances. The core material is Amidon 43 ferrite. The resistors are the highest tolerance available in the parts box or can be matched.

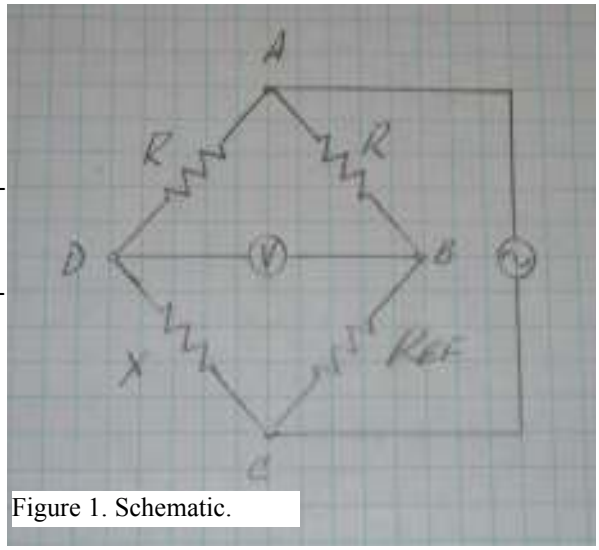

Figure 1. Schematic.

TECHNICAL

The detector is a voltage doubler and designed as described in March, April and May, *eKilo-What* issues. In this case, however, a variable resistor for adjusting meter sensitivity is not included. Provisions are made to increase the drive to the Reference branch by about 5:1 (effectively multiplying the Reference impedance by a factor of 5) by closing S1 and increasing the detected voltage by removing the meter with S2 for using earphones or DVM. The unknown and reference ports are interchangeable so either can be multiplied.

The least sensitive ac mode uses the internal meter. Next is a modulated AM signal used with high impedance earphones and the most sensitive is the DVM mode. In practice, a gross null is found with the meter. The meter is then taken out of the circuit and a DVM is used to find the final null.

The competed tool is shown in Figures 3 and 4. The bridge components are arranged at 90° to each other to avoid coupling.. Other than that, lead lengths were not considered an issue at lower HF frequencies. (Smaller wire sizes are good for about 1 nHy per inch, resistors have about 1 pFd equivalent in parallel with the resistor body, and as I recall, my index finger, lightly applied , is about 2 pFd or so.) Precision instrument manufacturers go to great lengths to minimize these effects but, for the intended purposes, this type construction serves adequately. The detector is mounted on the wiring board which also holds the meter in place.

Questions or comments? Contact Pete/KJ5SS at 325-617-4387 or norris-peter26@gmail.com.

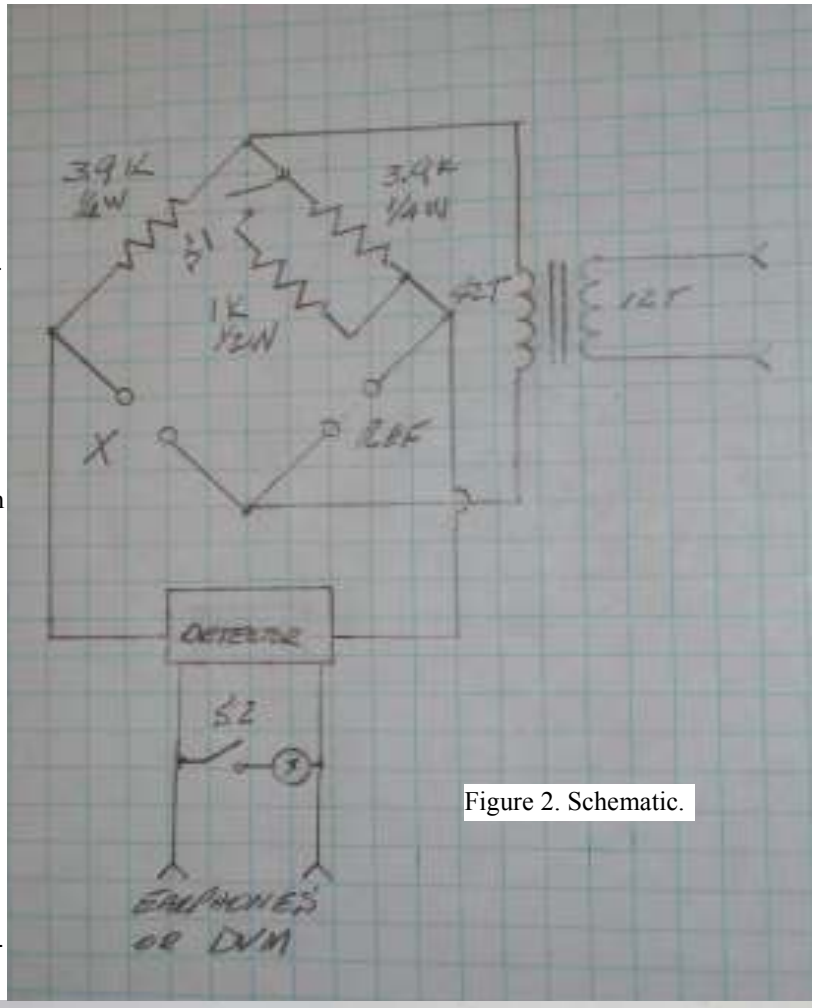

Figure 2. Schematic.

Figure 3. Tool.

Figure 4. Wiring.

Free

I have the following free items for anyone interested:
1: diplexer set for 1090 MHz with 5 pole tuned cavity filter on transmit and 7 pole tuned cavity on receive. Tunable, should tune to 1200 MHz or 900 MHz with a screwdriver;
2: signal monitor probe 2 ports 30 db attenuation, about 6 n
connectors appear to be silver plated for 1080 MHz;
3: 2 meter Yagi 100 feet long on two pieces of 200 pound nylon line. about 44 elements and 19 db gain. This antenna is really ugly but it works. I made it out of aluminum ground wire so the elements are flexible and sort of droop a lot.

James Fisher -kd6iwd@qmail.com

For Sale

NEW ITEMS

Used Yaesu G-800SA rotor and controller. Purchased from estate sale and stored for several years. Clearing shack. As is (I was told it worked before removal from tower). I replaced bolts on rotor top and put new brace on it). As is. $300 from WB5ZAM 325-340-6102

Kenwood TS 430S with matching Power Supply - $326.00. Hubert/KC5NPC, tbum@aol.com.

Coleman Powermate Generator, 6,250 Watt, excellent condition. Used one time for Field Day (approximately 36 hours). With wheel kit—$400.00; Kenwood 2000—$1200.00; MFJ-4225 NV—$75.00; 2x IC-207H-$200.00; 2x 2M-440 mobile antennas - Call; 2x 2M-440 base station antennas—Call. Contact Joe Kent/W5UI at joew5ui@gmail.com or (325) 896-2038.

18HT Hy-Tower for $150. Rohn 60' tower with winch, $250. Both are located in Christoval. Grady, K5EP, 325-716-0450

Upcoming Hamfests/Conventions

Date	Event	Location	Information
8/2-3/2013	ARRL Texas State Convention	Austin, TX	http:austinsummerfest.info/
9/07/2013	Gainesville Hamfest 2013	Gainesville, TX	http://gainesvillehamfest.org
09/13/2013	Ada Hamfest 2013	Ada, OK	http://gainesvillehamfest.org
10/25/2013	Texoma Hamarama	Ardmore, OK	http://texomahamarama.org
11/09/2013	NC Tech 2012	Azle, TX	http://wc5c.org/

Hamfests are listed for all Texas, and as far into New Mexico and Oklahoma as the most distant point in Texas from San Angelo. *–Ed.*

RECENT PROGRAMS

Jan '13	Scanner Jack/KB5TMY—Scanners
Feb '13	Tom/K4OTM—Flying
Mar '13	Tom Dufresne/WB5MTR - High Voltage Safety
Apr '13	Repeater Relocation Discussion
May '13	Field Day Planning
Jun '13	Field Day Planning
Jul '13	Field Day Planning

HF Nets of Note de Gary Chaffin/W5ETJ

NET	DAYS	LOCAL TIMES	DIAL
Concho Valley Ragchew	M-T-W-T-F	1800 - 1900	3825
Texas Traffic Net	S-M-T-W-T-F-S	0830 - 0930	7285
7290 Traffic Net	M-T-W-T-F-S	1000 - 1200	7290
7290 Traffic Net	M-T-W-T-F	1300 - 1400	7290
Texas Traffic Net	S-M-T-W-T-F-S	1830 - 1930	3873
Central Gulf Coast Hurricane Net	S-M-T-W-T-F-S	1900 - 2000	3935
Texas ARES Net	Monday	1930 - 2000	3873
Big Bend Emergency Net	Sunday	0830 - 0930	3922
Texas Trader's Net	Sunday	0900 - 1000	7245

Emergency Communications

de Mike Dominy/KD5URW - Emergency Coordinator

Tom Green County ARES Net

Meets every Monday night at 8:30 CST (2030 hr) on the 444.350 MHz (Pl 162.2) (N5SVK). The net can also be reached by EchoLink at WB5VRM-R or Node 412402. Other frequencies are announced on the Concho Valley Net at 8:00 pm.

Next ARES meeting August 15, 2013, at 1900, at the Clubhouse.

ARES Net Report

Date	Net Ctrl	Check-ins	Time	Freq
7/1	KD5URW			444.350
7/8	KD5URW			444.350
7/15	KD5URW			444.350
7/22	KD5URW			444.350

Concho Valley

Two Meter Net

Date	NCS	Check-ins	Duration
7/1	KB5FNK	22	19 min
7/8	KB5FNK	21	21 min
7/15	KB5FNK	22	15 min
7/22	KB5FNK	15	13 min

This net meets every Monday night at 8 p.m. on the club's 146.94 repeater. All amateurs licensed to operate on that frequency are invited to participate.

Concho Valley Open FM Repeaters

2 Meter		70 centimeter	
145.27-	San Angelo PL 88.5	441.750+	San Angelo PL 162.2
or PL 100.0 for local transmit		442.250+	San Angelo PL 162.2
146.72-	Eldorado PL 100.0	444.225+	Robert Lee PL 162.2
146.88-	San Angelo PL 88.5	444.350+	San Angelo PL 162.2 (Echo-Link Node)
146.94-	San Angelo PL 103.5	444.875+	Brady PL 162.2 Linked to 444.225+
147.06+	San Angelo PL 103.5		
147.34+	Robert Lee PL 88.5	147.30	San Angelo PL 88.5
146.90-	Brady PL 162.2		
147.30	Brady PL 114.8 (Echo-Link Node)		

Membership Renewal

Membership renewals are due in January 2013. Prices are as follows:

- Regular memberships: $20
- Each additional family member: $5
- Seniors (age 65+) and Juniors (under age 19): $10

SAN ANGELO AMATEUR RADIO CLUB

P.O. Box 4002

San Angelo, TX 76902-4002

Get all the latest club news
on the World Wide Web at www.w5qx.org

2013 SAARC Officers:

President - Tom Austin/K4OTM

Vice President - Joe Kent/W5UI

Secretary/Treasurer - Bob Freeman/KD5PIX

Emergency Coordinator - Mike Dominy/KD5URW

Activities Manager - Hughbert Robinson/KC5NPC

Grounds Chairman - Marcus O'Quin/KF5GKC

W5QX Trustee - Charlie Campbell/KC5EZZ

Next Meeting: 8/8/2013

PROGRAM: **Tom/ K4OTM: Field Day**