The eKilo - What

Monthly Newsletter of the San Angelo Amateur Radio Club

April 2013

PRESIDENT'S MESSAGE

Most of the April meeting was concerned with the final selection of a Field Day site for this year. The site selection committee recommended that we consider several sites but the two that quickly move to the top of the list were to use the vacant areas in front of Sam's Club the second was to return to the Fort Concho Parade ground except that this year the proposal was to use the west end of the area to give us better exposure to the public. Those attending preferred the Sam's Club site, pending an on-site survey, Tom getting the dimensions of the available area and getting final approval from the manager. Gary Chaffin and I measured the available areas on either side of the fuel pumps and I was able to get the manager's approval for their use. I hope that Pete can get the photos and dimensions of the site in this issue of "the eKilo-what". We believe that this site will give us good visibility to the public and while we must furnish all of our own antenna supports (no trees) it will have ready access to most any commercial items that we might need during the exercise. Unfortunately, I will have to miss the May meeting of SAARC due to a trip. Since Joe Kent has had much more experience than I, I am sure that the Field Day preparation will continue without a hitch in my absence. I urge everyone to attend the May meeting so as to make sure that we get all of the necessary bases covered for our Field Day Preparations.

San Angelo was well represented at the Belton Hamfest. The most notable difference this year was the weather. It was cool and beautiful and the tailgate area was quite active. The indoor flea market was also busy with pretty much the same dealers that we usually see at West Texas Hamfests. My observation was that many items offered were being sold. There were many who made frequent trips to the parking lot with their treasures. I was one of them. I wish you all 73 and hopes for a rainy May.

Tom/K4OTM

Club News

Minutes for Meeting April 13, 2013

Editor's Note: As the Secretary's minutes were not available for this issue, Matt/W5MAT contributed to the minutes of the meeting as follows:

The meeting was called to order by the President at 7:30 PM.

Treasurer made his report.

Matt/W5MAT made a motion the report be accepted. The motion passed.

A discussion of the effort of moving the .94 repeater to Wilke Hill followed.

Matt/W5MAT made a motion to rescind a previously passed motion to move the .94 repeater from the ASU Men's Hi-rise be rescinded. The motion passed.

Additional discussion of the need for back-up power be installed for the .27 repeater currently operating at the Wilkie Hill location followed.

Matt/W5Mat made a motion that Charlie/KC5EZZ determine the cost of providing back-up power for the .27 repeater and report to SAARC. The motion passed.

The raffle drawing pot won was donated to SAARC.

The meeting was adjourned.

Belton Hamfest

Joe/W5UI, Hughbert/KC5NPC, Gary/KE5TXL, Charlie/KC5EZZ, and Bob/W7IKT with Carol were seen at Belton according to Matt/K5MAT. He estimates there were 75 to 100 tables and booths with 30 or more tailgaters in the parking lot with more inside.

Hughbert/KC5NPC writes:
I drove down to Belton on Friday, because I like to walk the tailgate section. I also knew a lot of the guys from our 3.825 6:00 PM group would be there, also the 3.922 group around the BBQ cooker.
Most activity on Friday was looking over the offerings and visiting, not much buying or trading. Saturday was really crowded, the parking lot was pretty full when I got there at 8:00 AM. Not much happening as far as buying/selling early. I was able to drop off two pieces of equipment for repair and pick up one which had already been repaired. Saved some shipping on those to help against expenses.
I think I saw 10 Hams there from San Angelo.
,

A Rosenberg Ham was heard on the air saying Belton was a great Hamfest, second only to the Houston Hamfest. Houston had more tables. Houston also had speakers that Belton does not have. He also mentioned great bargains in the Belton parking lot. - *Ed.*

Club News

SK Committee

Matt/W5MAT has announced the formation of an SK committee to help the spouse left behind. Currently the committee consists of Tom/K4OTM, Gary/KE5TXL, Joe/W5UI and Matt. For more information, contact Matt.

Amateur Radio Technician Class

The San Angelo Amateur Radio Club (SAARC) will be having an Amateur RadioTechnician Class this coming May.

The class will be at the SAARC Club House at the Mathis Field Airport, 5513Stewart Lane.

The Dates and Times are as follows:

10 May 2013 - 6:30 PM to 9:30 PM

11 May 2013 - 8:00 AM to 5:00 PM

12 May 2013 - 8:00 AM to 11:00 AM

- Open Testing for any of the Amateur Radio Classes will start at 2:00 PM on 12 May 2013

This is open to anyone who wishes to get their Amateur Radio (Ham) Tech license.

If you have someone who wishes to get their Tech license, please let me know so that we can contact them and let them know where they can get their books from.

They can go on-line to ARRL.org and order the Tech Class book from them at:

http://www.arrl.org/shop/Ham-Radio-License-Manual-Revised-2nd-Edition/?page=
1
Ham Radio License Manual Revised 2nd Edition Book and CD-ROM. All you need to become an Amateur Radio Operator! Practice Exam Software included.

The Cost is $29.95 ISBN: 978-0-87259-097-7 Order No.: 0977

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ARRL NEWS

--HamCom 2013 in Plano June 7th & 8th ---

HamCom 2013 in Plano is scheduled for June 7th & 8th. HamCom is the largest event of its kind in Texas, and ranks high in size nationally. It is extremely well attended, and one you should try to attend. Scouting activity at last year's event was very strong, with over 300 scouts and their Scout Masters in attendance. Information can be found at http://www.hamcom.org

My email address is now w5npr@bigbend.net. Please make that change in your email address records. Other email addresses that should be active is w5npr@arrl.org and w5npr@arrl.net.

I will be writing the West Texas Section News Letter sometime next week and would like to write an article on the activity of West Texas hams participating in the inaugural year of the Texas State Parks on the Air (TSPOTA). If you participated from a Texas State Park, I would love to hear from you and receive a summary of your contacts, especially those contacts which involve operators in Parks other than your operating location. I think it will make an interesting article.

Hopefully the contest will be continued, and I'm sure it's popularity in this inaugural year will have an influence on whether the powers that be in the Texas State Park organization will reschedule the event next year and in years to follow.

Please email your summary and State Park location, or locations, if you operated from more than one State Park. Thanks!

ARRL West Texas Section
Section Manager: Billy D Roberts, W5NPR

OF INTEREST

Tom/K4OTM writes:
Here is a demonstration of the new, easier CPR which takes the complication out of the method that was taught and practiced a few years ago. Please watch -
It's easy to remember and you don't have to be certified to use this method, and it may save a life.
This is a great demonstration, done by doctors who developed the procedure at the University of Arizona Sarver Heart Center.
You're urged to watch and then share it with those you care about. http://ahsc.arizona.edu/node/730

Sam/K5OAI writes:
I just became aware of this site when I read a post by Laurie (JT-Alert author) saying that there was a check mark in the JT-Alert config that would cause it to use HamQTH's info to automatically populate the call/qth/grid fields for logging. I looked the site over and found it's not only free, as opposed to the QRZ subscription level but it also has a lot of neat features. I uploaded my log and now if you go to my call on there:
http://www.hamqth.com/K5OAI

Click on the Log search and it shows lots of neat info, most operated bands, modes, and even a search of my log. Also click on the Recent activity and CONDX predictions tabs both of which work even if you have not set up an account) .

I saw this beta software referenced in The ARRL Contest Update for April 24, 2013' <quote>
"Web Site of the Week - Speaking of maps, Rick ZL2HAM has created ViewProp a terrific new mapping program that takes a stream of spots or Reverse Beacon Network reports and plots them on any of a collection of maps from DX Atlas. Not only are the receiving stations displayed but the path between them, with color indicating the band and variable persistence, among other interesting options. It's fascinating to see the different bands opening and closing as the Earth rotates. Both globe and flat map presentations are available in this beta test version. If you'd like to help complete the test process before ViewProp 1.0 is released, check in on the software's website or join the online discussion group."</quote>
http://zl2ham.wikispaces.com/ http://groups.yahoo.com/group/viewprop/
in the group's messages I saw this 18 video link:
"For those who might be interested in seeing a demonstration of ViewProp's main features, here's a link to an 18-minute introductory video, in QuickTime format [110MB]:
https://dl.dropboxusercontent.com/u/48950365/viewprop-intro.mov
if you have ever been fascinated by the mysteries of hf propagation,
it looks like this could e a very interesting tool.

Scanner Jack's Corner

New scanner frequency data is being updated and will be soon.

In the meantime Scanner Jack encourages you to call him for help with any scanner problem you may be

OPERATING

75 m Contact
by Pete Norris/KJ5SS

A matching network was recently completed for a 15' vertical. On April 24th, I was able to check in and talk on the Brazos Valley ARC Rag Chew Net 3.910 MHz, between 7:00 and 8:00 PM CT, originating in Sugar Land, Texas. Some might ask, "And what's so great about that?"

I would answer with several comments about the greatness of this accomplishment:

- My rig puts out 80 to 90 watts CW and feeds a vertical antenna that is about 0.06 λ and estimated total system efficiency of about 20%. I haven't estimated SSB output.

- The ionosphere seldom favors 75 m at this time of day and this time of year, or any other daylight time for that matter.

- The atmospheric noise level in this band is about 40 dB above thermal noise in this area due to even higher levels centered in the area of Belize-Costa Rica. Thunderstorms in Texas and vicinity add to the noise level.

I started, but did not complete to my satisfaction, a study of 75 m propagation several years ago while living in Fort Bend County. My experience was that ground wave, or perhaps surface wave, only seemed to be effective for about 10 miles and it seemed antenna tops had to be line-of-sight (direct wave) to achieve this short distance. Beyond that there seemed to exist a dead zone for 20-30 miles before good communication was possible. Galveston, Beaumont, and Schulenburg, for instance, were workable from my location but not some stations in Harris County. Polarization might have been an issue but both vertical and horizontal antennas were used with essentially the same results.

I am sure someone has something to add about working the 75 m band. Let us hear from you.
And, of course, anything on any aspect of communication is welcome.

Questions or comment? Contact Pete/KJ5SS,325-617-4387 or norrispeter26@gmail.com

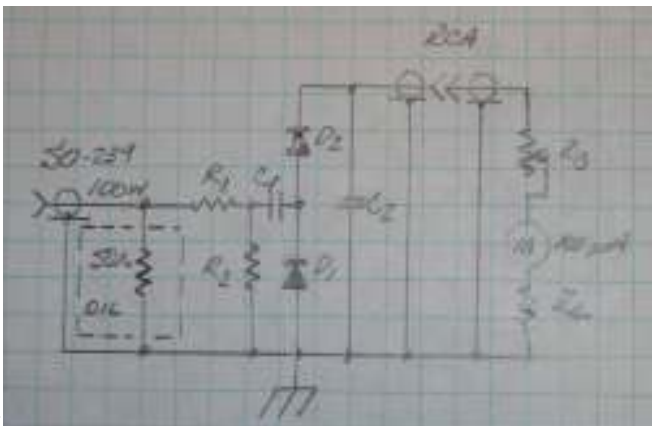
TECHNICAL

MORE WATTMETER
By Pete Norris, KJ5SS

The Heath Cantenna was discussed in a previous issue. The supplied detector required 1KW to produce 1 volt peak at the detector output. As 100 W maximum input is expected a more sensitive detector was proposed and shown in Figure 1. A 100 µA meter was available as were 1N6263 diodes.
This diode is a switching diode with the following ratings and characteristics:

Peak Repetitive Reverse Voltage	60 volts
DC Blocking Voltage	60 volts
Forward Continuous Current	15 mA
Non-repetitive Peak Forward Current @ t = 10 sec	2.0 A
Reverse Breakdown Voltage @ I_R = 10 µA	60 volts
Forward Voltage Drop @ I_F = 1.0 mA	0.41 volts
Reverse Recovery Time	1 nsec

Figure 1. Doubler and Voltmeter Schematic



The divider maximum reverse voltage will be set with R_1 and R_2 to 50 volts. The input power of 100 W results in 200 V_{PTP} across the 50 Ω load resistor. Diode D_1 can be thought of a clamp not allowing the voltage at the D_1-C_1-D_2 junction to drop much below zero. Referring to Figure 2, on the negative voltage swing (A), C_1 will charge to the negative peak voltage (B) set by the divider. On the positive swing (C), D_2 will conduct charging C_2 to the peak-to-peak voltage (V_o). The R_1-R_2 divider must be 4:1 (200/50) to limit the voltage to 50 volts, which is less than the diode reverse voltage ratings. R_1 should be set much larger than the 50 Ω load, say 5000 Ω, to avoid compromising the load SWR. Using $R_2/(R_1+R_2)$ = ¼ and R_1 = 5000 Ω, then R_2 = 1666 Ω.

The current provided by C_1 should be much larger than 100 µA. Assuming C_1 and D_1 are short circuits, then the short term current available through R_1 is 40 mA (200/5000). The average current will be 100 µA. Both do not exceed the diode forward current ratings.

C_2 should be large enough to supply 100 µA without significant change in the time between voltage peaks. If the lowest frequency of interest is, say 1 MHz, then the period is 1/f , or 1 µsec. The RC time constant for C_2 and the meter circuit then should be much greater than 1 µsec. The total resistance (R_T) of the meter circuit (R_3+R_M+R_4) is about 500000 Ω (50 v/100 µA), so using 100 µ sec, C_2 must be at least 200 pFd (100=R_TC_2). C_1 can be the same value. The meter resistance was measured to be about 970 Ω. A 150 KΩ pot was available so R_3 should be about 400 KΩ.). C_1 can be the same value. The time constant for the input is then about 0.24 µsec (R_{IN}=1.2 KΩ, where $R_{IN}=R_1R_2/(R_1+R_2)$), allowing C1 to fully charge in a few cycles.

The components found in the parts box and used are:

R_1 = 4.7 KΩ R_2 = 1.5 KΩ R_3 = 270 KΩ R_4 = 0-150 KΩ
C_1, C_2 = 330 pFd, 600 v M_1 = 100 µa

All resistors can be ¼ watt.

R_1 and R_2 do not produce the ratio calculated. Only about 41 volts output was measured with a high input resistance voltmeter so R_4 was reduced accordingly.

SWR remained below 0.3 on all HF bands.

Measurements are something of a problem: my scope is a load of 1 MΩ and 25 pFd with probe set to X1. The probe resistance is only about 2.5X the meter circuit value while the capacitance results in about 3.5 KΩ at 1.8 MHz.

Some may argue the exposed test point has created an antenna and a safety hazard. This feature can be eliminated or covered.

Should a single diode detector be used, omit C_1 and D_1 and connect D_2 directly to the junction of R_1-R_3, the values of which will have to recalculated as above. The circuit will be the same as the original Cantenna as shown in the previous issue.

The MFJ Versa Load could easily be modified by packaging a detector in a small box and mounting above the existing connector. Or, as an alternative, the detector could be mounted in a separate box with 2 connectors, taking care to maintain transmission line integrity. The power could be checked into the dummy load and then into a load under test. If the load could result in more than 200 V_{PTP}, then resistor values would have to be adjusted.

Questions or comments? Call Pete 325-617-4387

HEART OF TEXAS BIKE RIDE

We went to Brady to learn more about the May 4th event and spoke at length to two Rotary Club members about this fund raiser. Although this has been an annual event for may years, this year had fewer participants than perhaps ever before. Only 9 signed up for the 20 mile race and 11 for the 55 mile circuit. Although Shannon Hospital had two pieces in the Standard Times earlier this year and proceeds going to the Children's Miracle Network, the turnout was disappointing.

I was interested as this type of event seemed a great opportunity for SAARC to provide a service and receive some exposure. So, to become more familiar with the course, we went to Brady High School, the starting and ending point of the race and then followed part of the course. The 55 mile course started at Brady High, went south on Hwy 87 to the 1st rest stop at 87 and FM 1222; from there on FM 1222 to Hwy 29; then west to FM 1311 where the 2nd rest stop was located; then North on FM 1311 to the 3rd rest stop at Hwy 190 and east to the High School. FM 1311 is considered a training ride because of the many hills and long inclines of the road.

This area is full of history and geology. A Historical Marker on FM 1311 told us James Bowie and a group of men were attacked by Indians there in 1831. The attack lasted one and a half days and after 80 Indians were killed, the Indians broke off and left the area. Further south, the road descends to San Saba River through a cut that reveals a good amount of the geology of the area. On Hwy 29. large areas of exposed rock are suggestive of the Enchanted Rock batholith. The flowers along Hwy 29 were in bloom and were stunning between Mason and Llano. And, after engaging in potential public service, what would be better than to have a turkey sausage and BBQ chicken dinner topped off with peach pie at Inman's Kitchen in Llano. But I digress.

There are two repeaters in Brady that were tested on the course. My mobile rig feeds a mag-mount on the roof of the car. The greatest distance to Brady was on Hwy 29 where it was necessary to go to high power (45 watts) to reach both repeaters. Both repeater signals were noisy but completely readable. (Although I called each perhaps a dozen times not a single station responded!) This suggests lower output mobile radios would require antennas with gain to be usable on this part of the ride. (This situation also occurs on the MS150 course.) This, in turn, suggests an antenna project for ASARC members.

The people I spoke to seemed happy with cell phones for communication. Our cell, using Tracfone, was fine. So this may not be an opportunity after all. I may check again next year.

Pete/KJ5SS

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 recieve. 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

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; Yaesu FT-736R UHF/VHF Base Station w/new tone board –**SOLD**; Kenwood 2000—$1200.00; Yeasu FT736R—$$450.00; ICOM IC910H all mode transceiver—**SOLD**; Heathkit Station monitor SV-614 —**SOLD**. Contact Joe Kent/W5UI at joew5ui@gmail.com or (325) 896-2038.

Kenwood TS-930SAT HF transceiver—**SOLD**; Mirage KS-1/440 70 cm preamp—**SOLD**; Icom AG-25 mast mount 2 meter preamp—**SOLD**; Cushcraft AP-8 8-band trap vertical with radial —**SOLD**. Contact Glenn Miller/AA5PK at aa5pk@outlook.com or (325) 949-4775 (evenings).

Upcoming Hamfests & Conventions

Date	Event	Location	Information
4/27/2013	Hamfest	Ruston, LA	http://www.phara.us
4/27/2013	Hamfest	Albuquerque, NM	w5fha@arrl.net
5/4/2103	Hamfest	Smithville, TX	http://www.bcarc-hams.org/
5/11/2013	Picnic/Hamfest	Amarillo, TX	http://www.w5wx.org
6/7-8/2013	Hamcom	Plano, TX	http://hamcom.org
5/11/2013	Hamfest	Benton, LA	http://www.qsl.netnwlarn/arcos.htm
7/13/2013	ARRL Hamfest	Texas City, TX	http://www.tidelands.org

RECENT PROGRAMS

Dec'12	Christmas Dinner—Eatin Meetin
Jan '13	Scanner Jack/KB5TMY—Scanners
Feb '13	Tom/K4OTM—Flying
Mar '13	Tom Dufresne/WB5MTR - High Voltage Safety
Apr '13	Repeater Relocation Discussion

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.

ARES Net Report

Date	Net Ctrl	Check-ins	Time	Freq
3/4	KD5URW	10	10	444.350
3/11	KD5URW	9	18	444.350
3/18	KD5URW	12	14	444.350
3/25	KD5URW	8	10	444.350

Concho Valley Two Meter Net

Date	NCS	Check-ins	Duration
2/4	KB5FNK	16	15 min
2/11	KB5TMY	17	16 min
2/18	KB5TMY	15	16 min
2/25	KB5TMY	15	15 min
3/11	KB5SBE	17	18 min
3/25	KB5SBE	11	9 min
4/15	KB5SBE	24	20 min
4/22	KB5SBE	19	16 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
- Renewal package deal: 5 years for $80
- Associate members: $20

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

SAARC Monthly Meetings: 2nd Thursday, 1930, Clubhouse, 5513 Stewart Lane

Annual Dues: $20, Sr. & Jr. $10

The Kilo-What: Edited by Pete Norris/KJ5SS 325-617-4387, norrispeter26@gmail.com

Article submission deadline: Ten days prior to monthly club meeting.

NEXT MEETING: 5/9/2013
PROGRAM: TBD

MATHIS FIELD CLUBHOUSE