The eKilo - What

Monthly Newsletter of the San Angelo Amateur Radio Club

November 2013

PRESIDENTôS MESSAGE

Tom is currently cruising the Atlantic and plans to return December 10th.ð *Ed.*

Meeting Minutes for November 14, 2013.

Meeting was called to order by Tom Austin, K4OTM at 7:35 pm.

The meeting opened with the Pledge followed by an introduction of all in attendance.

Minutes were published in October's Kilo-What. Gary Pittman, KE5TXL made the motion to accept the minutes as presented, seconded by Gary Chaffin, W5ETJ. The motion carried.

The financial report was presented by Bob Freeman KB5PIX. Matt Healy, W5MAT made the motion to accept the report as presented, seconded by Gary Chaffin, W5ETJ. The motion carried.

Sky Warn Recognition Day will be on December 7th, 2013 and will be held at the National Weather Service adjacent to Mathis Field. Operator will start working at about 9:00 am although it runs for a 24 hour period. All are welcome to stop by and thank the weatherman working at SJT weather service.

Nominations for next years officers should be presented to Tom Austin, K4OTM or Gary Chaffin, W5ETJ.

Sample Officer Election Ballets for the slate of officers for 2014 were passed out. W5QX has a copy of the Club's By-Laws that outlines the duties of each officer.

Nominations for Ham of the Year should be presented to Buddy Parker, KD5SBE, Hughbert Robinson, KC5NPC or to Pete Norris, KJ5SS. Any nominations should be accompanied with a 150/175 word letter stating why your nomination deserves the award.

A motion was made by Matt Healy, W5MAT to hold DecemberÕs eating meeting at the Golden Corral and seconded by Gary Chaffin, W5ETJ. The motion carried.

If the Golden Corral is not available to handle the gathering, Hughbert Robinson will make the selection of a location and it will be announced on Monday nightÕs net.

Carol Heiser, N5CBQ won the split the pot and donated her winnings back to the club. Thanks for your donation!

A motion was made to adjourn by Matt Healy, W5MAT and seconded by Bob Heiser, W7IKT. The motion carried and the meeting was adjourned at 8:12pm.

Bob Freeman, secretary submitted by Matt Healy

Club News

From **Gary/W5ETJ:**

To all SAARC club members. As you know we will hold an election for club officers to assume duties in January of 2014. Election will be by ballot submitted at or before the annual EatinôMeetinôwhich will be held on 12 December at the Golden Corral at 8:00 PM. Ballots will be available at the meeting. You may also email your nominations to me at gchaffin@gmail.com prior to the meeting and I will include your nominee on the ballot. Write-ins will also be accepted for inclusion on the ballot at the meeting. Please be sure you have contacted the person you nominate and he or she agrees to serve should they be elected. If you would like to serve in any of the positions, it is perfectly acceptable for you to nominate yourself. The following positions, showing current nominees, will be voted on:

President ï No nominations yet

Vice President ï Hughbert Robinson / KC5NPC

Secretary / Treasurer: Bob Freeman / KD5PIX

Activities Manager ï No nominations yet

Emergency Coordinator ï Mike Dominy / KD5URW

Grounds Chairman ï No nominations yet

As per article III, section II of the SAARC bylaws, ñOfficers shall be elected for a term of one year by ballot of a simple majority of those members present at the first regular meeting in the month of December and shall take office at the first meeting in Januaryò.

73, and hope to see you on the 12th.

Gary/W5ETJ

From **Mike/KD5URW:**

The annual SKYWARN Recognition Day is coming up this Saturday, 7 December 2013.

As we have for the past many year's, the San Angelo Amateur Radio Club (SAARC), will have an HF station setup within the San Angelo National Weather Service for this annual event.

We will need help in setting up the antenna and the radio on Friday evening, from around 5:00 PM to 6:00 PM, to have everything in place for the event on Saturday.

If you can help on this setup, please let me know.

This Saturday will also be the 72nd National Pearl Harbor Remembrance Day, which is observed annually on December 7. This day is to remember and honor all those who died in the attack on Pearl Harbor on December 7, 1941, for that day is "a date which will live in infamy" for this country for that day is what drew us into World War II.

CLUB News

Please come out and help with the setup and then come out on Saturday and visit with friends, collages and other amateur radio operators from around the Concho Valley and the Big Country area.

v/r
Mike Dominy / KD5URW
San Angelo Amatuer Radio Club EC
Skywarn / ARES / RACES
San Angelo, Texas

(cell) 325-716-0659

Email: Kd5urw@arrl.net

Jerry/N5TBR wrote:

There have been some changes to the Echo Link .
First the call has been changed from WB5VRM-R to N5TBR-L.
The frequency is now 145.7850 simplex with a 88.5 tone and the node# 920069. It is still open to anyone wishing to use it.
I took it off of the 444.3500 rptr as I connect to other Echo Link Systems and did not want to tie up Don's repeater with the traffic.

Sam/K5OAI sent:

Lyn GW8JLY gave a presentation about FSK441 meteor scatter for beginners at the RSGB Convention in October. Lyn has a modest station. He uses just a single 9 element yagi and 400W. But he is QRV most days and makes some really great FSK441 contacts on 2m.

Liviu YO4FNG gave a fascinating presentation about 2m DXing from Romania. He was originally licensed under the Ceausescu dictatorship when no commercial equipment at all was available and he had to build everything. Now he has 4 yagis on 2m, QRO and has worked many stations on 144MHz JT65B EME.

Both talks are available on vimeo to watch online. Or you can download them for watching later. HD, SD and mobile versions are available for download.

GW8JLY Meteor Scatter for Beginners: http://vimeo.com/77358505

YO4FNG 4300km on 144MHz Sporadic E: http://vimeo.com/78288400

I filmed both talks in the hope that a wider audience would encourage more activity on 2m DX modes. Hope you enjoy the presentations and find them useful for encouraging more folk onto the VHF bands.

73 Paul G4DCV

ARRL NEWS

From **Billy D Roberts, W5NPR:**

The Field Day Results in the November 2013 West Texas News incorrectly listed WR5O as Quarter Century Wireless Association-Chapter 64/El Paso. WR5O is actually Brent Scott Contest Team/Lubbock. My apologies to Brent Scott and his team for my error. The corrected Field Day Results are listed below:

Midland Arc/KD5C/Class 3A/Emergency-Portable/1928 Total Contacts/43 Participants/8568 Total Score;

Big Bend ARC/Alpine/K5FD+AD5BB/Class 2A/Emergency-Portable/1936 Total Contacts/15 Participants/6768 Total Score;

Sun City ARC/El Paso/K5WPH/Class 4E/Home Station-Emergency/964 Totals Contacts/45 Participants/3716 Total Score;

Panhandle ARC/Amarillo/W5WX+KE5ZRT/Class 2A/Emergency-Portable/543 Total Contacts/15 Participants/2643 Total Score;

San Angelo ARC/W5QX+W5UI/Class 4A/Emergency-Portable/307 Total Contacts/66 Participants/1942 Total Score;

Abilene/Taylor County Skywarn/K5ABI/Class 3F/EOC Locations/412 Total Contacts/35 Participants/1870 Total Score

LamaCom Radio Club/Lubbock/K5LBK+KF5OLS/Class 2A/Emergency-Portable/116 Total Contacts/15 Participants/1201 Total Score;

El Paso ARC/W5ES/Class 2A/Emergency-Portable/241 Total Contacts/12 Participants/1032 Total Points

Brent Scott, W5RO Contest Team/Lubbock/1D/Home Stations-Commercial/326 Total Contacts/4 Participants/902 Total Score

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ARRL West Texas Section
Section Manager: Billy D Roberts, W5NPR
w5npr@arrl.org

---Wink High School Physics Class Takes Part in Club Radio Roundup---

Wink High School students in Cary Hannsz's KF5ZBW Physics and Principals of Technology Class took part in Club Radio Roundup, designed to encourage student participation. The intent of the ARRL sponsored event was to contact as many other participating schools as possible. Contacts were logged and points received for each contact. Contacts with other schools received five points, with non-school contacts receiving one point. Any school could participate, including colleges. Grady Smith WA5ZBX/Pecos assisted the class and provided the ham radio equipment. The week-long event is part of the class curriculum that is designed to create excitement in technology and provide credit for a physics class. The course will provide all the information needed to enable students to pass a Ham Radio license test. According to the news article in the Winkler County News, 13 students signed up to take the early November test.

Credits to Cory Hannsz KF5ZBW, class instructor; Grady Smith WA5ZBX, supervising ham radio operator; and the Winkler County News for the their excellent coverage of the Club Radio Roundup event.

ARRL NEWS

The news article was in the Thursday October 31st publication of the Winkler County News. That was the day my last West Texas News was written and distributed, and I regret that this was not covered earlier. My son Brad is the Band Director at Wink, and my wife found the article during a visit to Wink last Saturday.

I visited with Cory by telephone and was much impressed with what is planned for his high school students. He also is planning balloon projects with vhf/vhf transmitters attached. In order to track the balloon after it lands, he will be teaching his students ham radio fox hunting techniques, which would involve identical radio signal tracking methods. Also in the planning stage, is a vhf net which would hopefully involve other schools as well and the possibility of a one day a week net between his students and other schools that have included ham radio into their Physics and Principals of Technology curriculum. I will be alerting the Big Bend ARC that a program presented by Cory covering his school ham radio plans may be possible early in 2014. If you can help Cory's program as an Elmer, please get in touch with him. He would appreciate your call.

Cory said that for the Club Radio Roundup event, a 40 meter dipole antenna had been laid across the roof of the school building, without benefit of a tower. One call from a University in Florida using a beam and about 800 watts of power was easily heard, but the Florida station was having trouble hearing the Wink station. Cory advised the student to keep trying and after 10-15 minutes was successful in completing the contact!

---Silent Keys---

I received an email from Mike Obrisch KD5KC reporting the passing of Reba A. (Rea Anne) Rourke WD8EFC El Paso. She was the wife of Frank Rourke WD8EFB. On behalf of the West Texas Section, I extend our sympathies to Frank. I know she will be missed by all who knew her and Frank

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ARRL West Texas Section
Section Manager: Billy D Roberts, W5NPR
w5npr@arrl.org

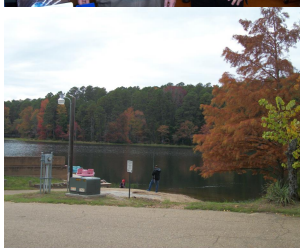
Scanner Jack's Corner

These are the military aircraft frequencies that is used for the San Angelo airport, (am) mode. FSS 255.400, TOWER 284.700, ATIS 319.000, ARTCC 319.250, ARTCC 322.550, GROUND 348.600, APPROACH 354.100, ARTCC 371.950.

From **SCANNER JACK ROBERTS KB5TMY**

Azle Hamfest

OFF TO AZLE



We left San Angelo, taking red highways on the map as we had planned a longer trip this time, arriving in time for lunch in Albany. Driving around a bit we decided on an establishment advertising a soda fountain, drug store and gift shop. This was the Vintage Vanilla And Erlineôs Specialty Shop on S. Main. The menu featured a limited number of lunch items but all sounded scrumptious. We settled on an *Elegant Egg Salad* sandwich, with Corn and Clam Chowder and topped off with Bourbon Pecan Pie and coffee. These were everything we expected. Iôm sure the other menu items were equally tasty. Should you go, take money!

From there it was on to Azle. Checking in to the motel we went in search of dinner. After dinner, I went to locate the VFW building where the hamfest was to be held. It was a little after 5:00 PM and the VFW was already humming with more young, apparently single and unattached, arriving in a stream. Apparently this is the spot to be in Azle on a Friday night!

Up early Saturday for breakfast at a nearby McDonalds, and, having read the newspaper, I arrived back at the VFW at about ten minutes before 7:00 AM. I was surprised at what I found to buy: a MFJ-862, a 3 range (144, 220, 440 MHz) SWR/Power Meter (a model I had never seen before), a Triplet multimeter, an Eico 710 grid dip meter with all the coils and a Magellan eXplorist 600 GPS with accessories and software. I took time to meet Chris Brewer/N5GMB, ARRL North Texas Section Manager and Assistant Manager, Philip Robinson/KB5ASY, both doing booth duty.

Leaving Albany we tried to skirt Ft. Worth and Dallas using the north side I-820 and I-635 loops to get to I-30. This was a disastrous decision: Both were under construction all the way to the east side of Dallas. Avoid these! We left I-635 taking Forrest Lane all the way to Rowllett and down to I-30. Dropping off at Daingerfield, we stopped at the Daingerfield State Park. The last picture is only one of many we took. This is one of the prettiest State Parks we have seen. Besides the foliage, notice the man fishing with his daughter.

Continuing to Caddo Lake, the trees were turning and the scenery beautiful. We spent three nights near the lake giving us time to visit Caddo State Park. (We are visiting State Parks in this part of Texas to try to track the assignments and work done by CCC Company 889 in our parks during the 1933-1934 period.) The park office here has an excellent room tracking the history of Caddo Lake as well as description of plant and animal life in the vicinity.

During our stay we visited Jefferson, a pretty little town with New Orleans style balconies and at least five restaurants with different cuisines. One day we chose one with a soda fountain with $1.00 hotdogs and 5¢ coffee! Jefferson has seen steamboats carry cotton and lumber, then an oil boom with oil wells drilled in Caddo lake. Now antique shops are an attraction. We left some money in one that occupies 20,000 square feet! One afternoon was spent on the lake taking a boat tour over a very small portion of the lake.

From Caddo Lake it was a one day trip back home with short stops at Tyler and Meridian State Parks, arriving a couple of hours after dark, tracking our progress all the way with my new GPS.

Pete/KJ5SS,325-617-4387 or norrispeter26@gmail.com

OPERATING

Path Obstructions

In the *eKIlo-What* article for September, 2 M Path Loss, free space path loss for a line of sight (LOS) was considered. The effect of an obstruction near the path and the signal enhancement or reduction at receiver discussed. In the October article, Eastern Tom Green County Set Data Analysis, the LOS for a spherical earth and a ñradioò earth (K=1.33) were compared. A method for determining the antenna height required for locations below the radio LOS was given. It was suggested that a path might be established for locations well below the LOS by the troposphere might be observed. In this issue the problem of an obstruction in the LOS is explored.

During the September 26th SET tests, a path between the EOC and the DPS office on Foster Road at southern loop 306 was tested. The path is about 4 miles in length which results in a free space path loss is about 95 dB. The power required for a receiver with a sensitivity of -120 dBm, as before, and adding the path loss, results in a transmitter power requirement of -25 dBm (-120+95)! With an HT output (low power) of 1 W (30 dBm) a path margin of 55 dB (25+30) results. So up to 55 dB additional path loss is permissible for the receiver sensitivity specified, neglecting antenna gain on both ends.

The EOC report was R3-4 (readable w/considerable difficulty - readable with no difficulty) for 1 W and R5 (perfectly readable w/full quieting) for 4 W (36 dBm) for the HT at the DPS location. The HT was using a ñrubber duckò antenna and the EOC antenna was a vertical. These reports suggest a loss of about 50-55 dB above the free space loss.

A section of a topographic map of the path is shown in Figure 1. The elevations are noted along the path. These elevations are plotted in Figure 2. The radio earth curve is plotted below the flat earth LOS line. An 8.6 foot path correction for a K=1.33 earth is included lowering the EOC antenna height by the same amount. Notice the hill blocks the path.

Figure 1.

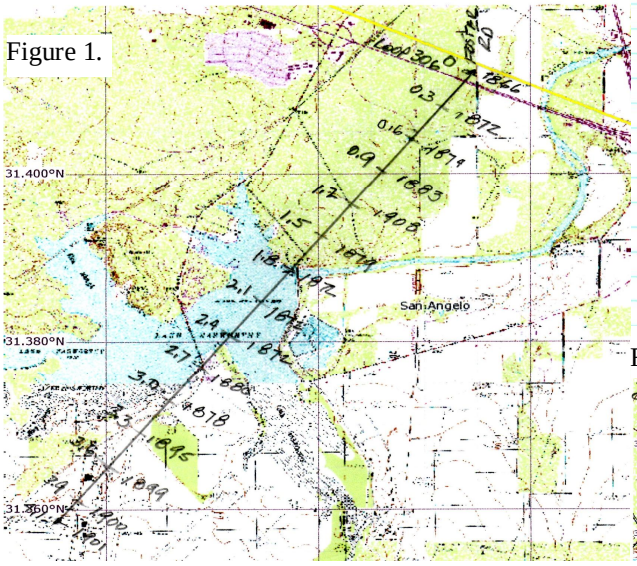


Figure 2.

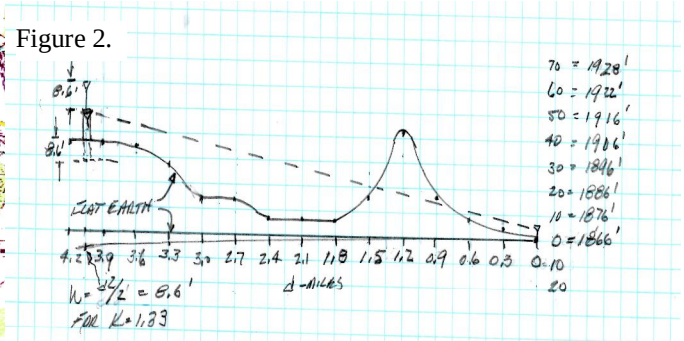


Figure 3.

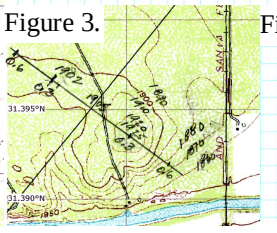
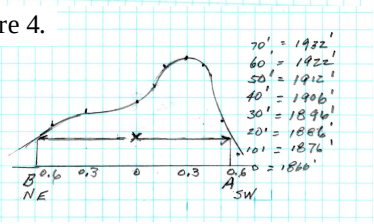


Figure 4.



In Figure 3, the hill is shown in greater detail with the elevations shown for a cut through the hill at a right angle to the LOS path. This cross section is plotted as seen looking down the LOS from the DPS parking lot toward the EOC in Figure 4. Notice the EOC is totally obscured by the hill. The question then is: Can it be analytically determined whether there is enough diffraction to bend the signal to hit the EOC antenna?

There were several methods found to make this estimate. An approach found in *Reference Data for Radio Engineers, Fifth Edition,* Chapter 26, was used to calculate the diffraction loss for signal passing over an ideal knife edge. The result was about 8 dB. The accompanying text says our hill would cause less diffraction as it has rounded surfaces compared to a knife edge and that 10 to 20 dB should be added to this result. Even so, 28 dB is far short of the 50-55 dB observed during the field test.

OPERATING

The ARRL *Antenna Handbook, 20th Edition,* examines diffraction over various terrains in Chapter 3. A computer program, called HFTA, for HF Terrain Assessment, is discussed. (The DOS version is called YT for Yagi Terrain.) Although interesting, this discussion is not directly concerned with our problem. The portion of the discussion on ray tracing does show a ñshadowò is cast by an obstruction but not how a signal might enter the shadow zone.

Other articles reviewed discuss none-line-of sight-propagation (NLOS) but none found were helpful.

To conclude, the blockage shown in Figure 4 is used in Figure 5 to show the extent of the shadow for both the DPS sight to the EOC and from the EOC to the DPS site. The LOS clearance points, A and B, are shown on both figures.

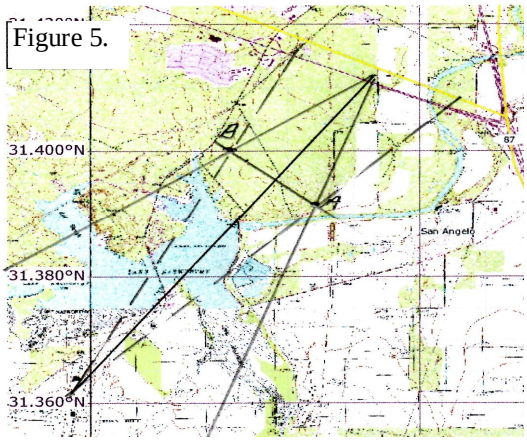


Figure 5.

David Lewis/W5DLL also performed an EOC-DPS path analysis. His LOS path was 4.6 miles compared to about 4.15 miles I measured. This results about an additional 1 dB free space loss. More importantly, the EOC is moved to the left in Figure 2, changing the slope of the LOS. Furthermore, David pointed out the EOC antenna was higher than I estimated, raising the LOS. Also, David found the hill to be 1.5 miles from the DPS and lower along the LOS. This led to lower LOS elevations than shown in Figures 3 and 4. This all ripples into Figure 5, narrowing the RF shadow area.

A physical inspection of the hill revealed it is now adorned with luxury two story homes, some with metal roofs. This may add 20-30 feet to the height of the obstruction. An abundance of trees was also noted. These factors combined are difficult, if not impossible, to evaluate. Such is the way of a topographical analysis - it is what it is.

The EOC signal was an R5 at the DPS, leading to the conclusion that testing the path is the most profitable and expedient method. As in the previous article, given sufficient power, RF signals will find a path to the receiver antenna.

I thank David for his interest, analysis and comments. Comments are always welcome and improve the quality of *our* newsletter.

Pete/KJ5SS, norrispeter@gmail,com or 325-617-4387

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

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

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

18HT Hy-Tower for $150. Rohn 60ôtower with winch, $250. Both are located in Christoval.

BETSY JAMAL betsyjamal@gmail.com

I am the daughter of Marvin Strong (W5NUS) who lived in Lovington, NM. He passed away in early September, and I am charged with the responsibility of selling his ham gear. My Dad wasn't "on" for several years but he did have the following items:
Lodestar Signal Generator SB-4160B, Drake Model T-4xc Transmitter. Drake Model MS-4 Speaker, Drake Model DC-4 Mobile Power Supply, Drake TV-3300-LP Low Pass Filter, Tram 1180 Antenna 144-148/430-450 Mhz, Very old Western Electric Key

Books for the equipment

I am located in West Houston in the Westheimer/Kirkwood area. If you are interested in any of this equipment or know someone who would be, please call me at 281-844-5709 (cell phone) to arrange a time to view it.

Betsy Jamal281-844-5709 (cell)

Upcoming Hamfests/Conventions

Date	Event	Location	Information
1/11/2014	Amateur Radio Fiesta	Schertz, TX	http://w5sc.org
1/17/2014	North Texas Section Convention (Cowtown Hamfest)	Ft. Worth, TX	http://www.cowtownhamfest.org
3/1/2014	25th Elk City Hamfest	Elk City, OK	n5neb1988@gmail.com

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

Aug '13	Field Day Planning
Jul '13	Field Day Planning
Aug '13	Buddy/KD5SBEð Field Day 10 Year Results
Sep '13	Hughbert/KC5NPC-San Angelo Nets
Oct '13	89th Anniversary Party
Nov '13	Officer Nominations

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 December 19, 2013, at 1900, at the Clubhouse.

ARES Net Report

Date	Net Ctrl	Check-ins	Time	Freq
11/4	KD5URW	10	22	444.350
11/11	KD5URW	8	10	444.350
11/18	KD5URW	11	11	444.350
11/25	KD5URW	14	14	444.350

Concho Valley

Two Meter Net

Date	NCS	Check-ins	Duration
11/4	KB5FNK		min
11/11	KB5FNK		min
11/18	KB5FNK	17	15 min
11/25	KB5FNK	16	12 min

This net meets every Monday night at 8 p.m. on the clubôs 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
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 OôQuin/KF5GKC

W5QX Trustee - Charlie Campbell/KC5EZZ

Next Meeting: 12/12/2013

PROGRAM: **Christmas Party**