

The eKilo - What

Monthly Newsletter of the San Angelo Amateur Radio Club

Oct—Nov 2012



President's Message

de Joe Kent/W5UI

Due to the SAARC 88th Anniversary Party held on 13 October, there was no business meeting on the preceding Thursday. It was nice to see those members who were able to attend and it appeared that all enjoyed the hamburgers, cake and conversation that ensued between friends and acquaintances.

A major agenda item at the November 8 club meeting will be the nomination of club officers for 2013. David Behrend/KB5FNK will serve as Nominating Committee Chairman with responsibility for developing the slate of candidates for next year's officers. He will be taking nominations from the floor and firming up the election ballot.

Don't forget to send in your nomination for Ham of the Year (HOTY) to our Secretary/Treasurer Bob Freeman/KD5PIX. Gary Chaffin/W5ETJ, Gary Pittman/KE5TXL and Jack Roberts/KB5TMY, all former HOTY recipients, will comprise the nomination committee.

I'm sure most of you have heard by now that Buddy Parker/KD5SBE recently underwent cardiac surgery and is currently convalescing at home. We wish Buddy a full and speedy recovery and look forward to seeing him at future meetings and events.

The Annual Eating Meeting will be held on 13 December at the Golden Corral. Please RSVP to Hughbert Robinson/KC5NPC at 949-7478 or catch him at the November club meeting or on one of the local repeaters.

September Meeting Minutes

de Bob Freeman/KD5PIX

The regular meeting of the San Angelo Amateur Radio Club, Inc., was called to order by President Joe Kent/W5UI, on September 13, 2012 at 1936 hours. In-

troductions were made with 14 members, 1 associate member and 2 visitors in attendance. The Treasurer's Report was approved as read.

Activities Manager: Hughbert Robinson/KC5NPC covered the special event station honoring the local Lily Pad collection.

The SAARC birthday party will be held on Saturday October 13, 2012 from 0900-1400.

SKYWARN Recognition Day will be held December 1, 2012 at the National Weather Service facility from 0800-1700.

Our annual Eating Meeting will be held December 13, 2012 at the Golden Corral.

Old Business

The price quoted to rent a hi-reach to facilitate repair of our 20M beam was determined to be excessive.

Good of the Order

There were 4 drawings before Split-the-Pot.

1. Hector Guerrero/KC5BRB won some magazines.
2. Gary Chaffin/W5ETJ won hardware.
3. David Lewis/W5DLL won hardware
4. Marcus OQuin/KF5GKC won hardware. Split-the-Pot was \$10.00 for Marcus and \$10.00 for the club. Marcus donated his share to the club. Thank you Marcus.

Hector/KC5BRB provided the program for the evening and explained what information the folks at the National Weather Service need during a severe weather event. Hector explained some of the things that they are not able to see on the radar. The minimum size of hail and sustained wind are some of the things he went over. Matt Healy/W5MAT and Hector provided tips that help spotters give good reports when out storm chasing.

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

A Bidirectional Coupler (Part II)

By Pete Norris / KJ5SS

As discussed in a previous issue, a bidirectional coupler can be thought of as a current transformer. An ideal transformer passes any amount of power without any loss. Real transformers, however, saturate and become nonlinear, eddy currents in the core material results in losses, losses occur in windings, there is capacitive coupling between windings, and so on. To keep it simple, we will consider our transformer an ideal transformer.

For an ideal transformer with the same number of turns in both primary ($n_1 = n_2$) a load across n_2 appears unaltered across n_1 . Such a circuit is shown in Figure 1. Looking into the primary side of the ideal transformer, the transformer is not seen and the equivalent circuit can be drawn as shown. The power is dissipated equally in the source and load and the maximum power available is delivered to the load. The transformer is transparent and may be dropped from the schematic.

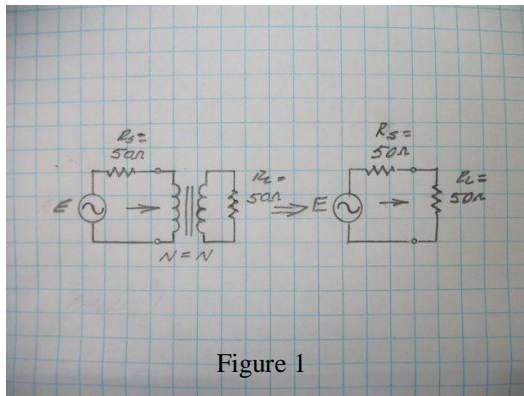


Figure 1

The transformer used in the bidirectional coupler is shown in Figure 2 with both the generator source resistance and the load in the primary circuit. The total resistance in the primary is 100W. The transformer input open circuit voltage is E volts and the short circuit current is E/100 amps. If $n_2 = 10n_1$, the secondary open circuit voltage will be higher by 10 and the short circuit current will decrease by 10 resulting in a match when the load is 100 times the source resistance. In the case of a 100W source the load would be 10000W. Looking into the primary, 100W is still seen and the match maintained as shown in Figure 2. Again the power is dissipated equally in the primary and secondary circuits and the maximum power available is delivered to the secondary.

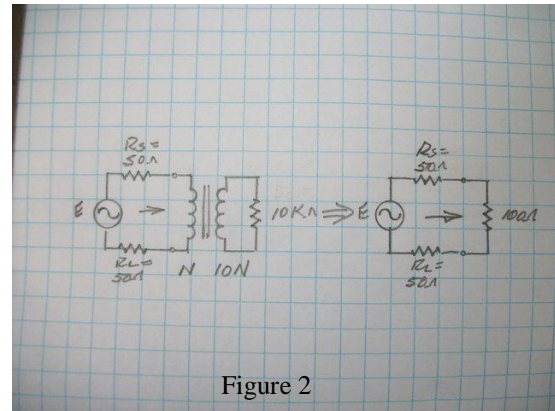


Figure 2

Looking into the secondary winding, the source is transformed to 10000W and the match is maintained as in Figure 3.

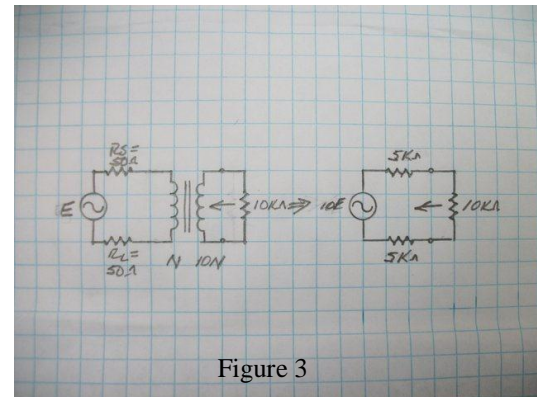


Figure 3

Now, if the secondary circuit of Figure 3 is loaded with 50W, as shown in Figure 4, the primary circuit sees only 0.5W. The source and load in the primary dissipate 99.5% (100/100.5) of the power available. The 50W load in secondary (the sample) dissipates 0.5% (0.5/100.5) of the power

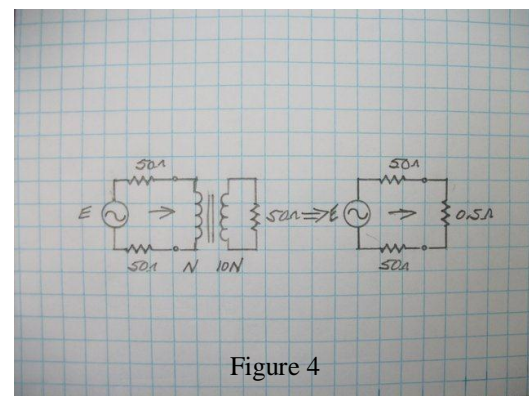


Figure 4

available.

For the primary circuit, the current is little affected by the load for the 20 dB attenuation case even for loads, say, up to 1000W. That is, the primary current circuit remains essentially constant as does the secondary current for a large range of secondary loads as long as they are much less than the transformed source value.

From the secondary standpoint, however, this may be a

A Bidirectional Coupler (Part II)

By Pete Norris / KJ5SS (Continued from Page 2)

terrible mismatch for a load connected to the output connector as shown in Figure 5. If a 50W resistor is placed across the output, the output appears to be about 50W and provides a good match for 50W connected to the output connector

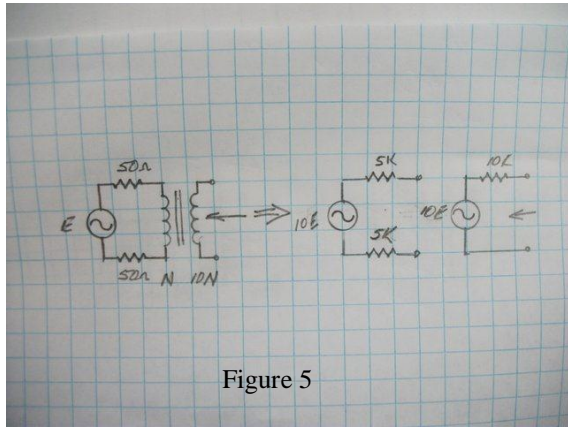


Figure 5

Now the purpose of the banana jacks marked Ro in the photo: The jacks are mounted to accommodate a dual banana plug. Any resistor can then be mounted on the plug providing any source such as 50, 75, 300W, etc., up to an open circuit.

The washers seen in the photo are intentional. I have never been able to locate the jack holes to match the jack plugs: even carefully locating the center punch and drilling pilot holes, the drill bit would wander or the hole would be misshapen. Out would come the rattail file and all the fun that follows. Finally it hit me: drill one or both jack holes a little large, mount the jacks with washers, put the plug in and tighten the jack nuts for a perfect fit. I may be the only one that didn't learn this as a youth but maybe someone can use it today!

Comments or questions? Call Pete, KJ5SS, 325-617-4387.

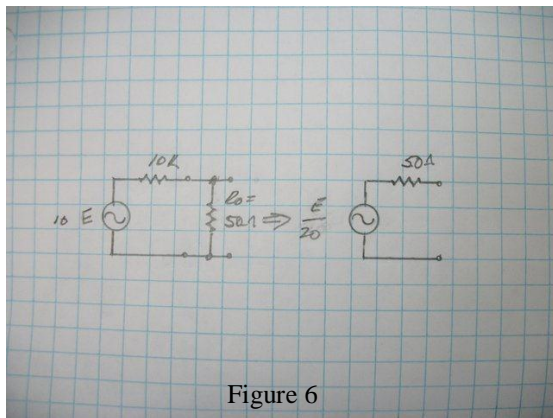


Figure 6



as shown in Figure 6. The 10000W source is now a 50W source. The voltage source is reduced to $E/20$ ($10E \cdot 50 / 10000$). The equivalency of the two circuits may be checked by comparing the short circuit current and open circuit voltage in each circuit.

2012 Jamboree on the Air de Matt Healy/W5MAT 20 October 2012



On Monday, September 24th, I got a call from Leland Fellows, N5DGH a fellow ham operator from the Lubbock area. He was working with many communities in West Texas to develop interest in the 2012 Jamboree on The Air (JOTA) weekend. Leland wanted to see if our area would be host to the San Angelo Boy Scouts and Cub Scouts to provide them an opportunity to get on the air through the Jamboree on The Air. After meeting with Leland on September 27th I went to work. The nice thing about spearheading any event is there are so many folks that are simply willing to help in any way needed.



Prior to the kick off on October 20th at 8 am I asked Joe Kent, W5UI, Bob Heiser, K7IKT, and Mike Dominy, KD5URW if they would be able to help at the club house. That was where the local Boy Scouts were going to meet to get on the air, and each showed up at the designated time ready to jump in with a short program and then get the kids on the air. I was scheduled to set up a two meter station at the Baden-Powell Park at about 10:30 for the local Cub Scouts.

A quick trip to the club house before heading to Baden-Powell Park found our members ready to go but no Boy Scouts had stopped by yet. Not to waste the time, Bob Heiser had his surgical mask on (he wasn't really wearing a mask), he was working on the antenna switch for the HF Radios. It turned out there was a problem with the switch, and he took the time to share with the other operators what the problem was, and how to

clean the contacts, put it back together and then test it. Everything worked fine after the surgery.



Joe Kent and Matt Healy went over to the Cub Scout camp, made contact with the camp director, and got the best place in the park to set up our stations. Joe quickly went into the HF radio and found a few bands that were open while Matt set up his J Pole for his HT that would be used on two meters. Bob Heiser made a trip out to the site to deliver the Club's Banner, and it was erected on our cars so the Cub Scout knew who we represented.



At the stroke of 11:00 am the Cub Scouts started lining up to talk on our radios and all over the city our local hams were nice enough to visit with each, taking their time to make sure the scouts all had a great experience. We expected to operate until about 1 o'clock but found the scouts just kept coming and coming and coming to talk on the radio. We ended up staying on the air until about 3:40 Saturday afternoon and we only stopped then because our HT ran out of battery. Throughout the course of the day there were 26 Cub Scouts that had QSOs on the radio, and they made 53 contacts.

I just wanted to pass on a great big "Thank You" to the follow folks: Joe Kent, W5UI who really helped setting up our station at the Cub Scout Camp; Mike Dominy, KD5URW who was faithful in getting the station at the club house up and running for the Boy Scouts; Dr. Bob Heiser, K7IKT who helped open the club house and then did that delicate surgery on the antenna switcher (the patient did live); David Lewis, W5DLL who stayed on the air talking with most all the Cub Scouts for four and a half hours and finally to Jim Marrs, KF5QKK who also stuck with us throughout the entire day. My hat is certainly off to each of you for all you help and checking into the net. There were a total of 15 ham operators that helped with the QSOs throughout the day and I just wanted to thank each of you for taking your time to make JOTA 2012 such a big success. Matt Healy/W5MAT



**88th Annual SAARC Birthday Party de Joe Kent/W5UI
13 October 2012**



For Sale

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 \$500.00. Contact Joe Kent/W5UI at joew5ui@gmail.com or (325) 896-2038.

Kenwood TS-930SAT HF transceiver, \$400; Mirage KS-1/440 70 cm preamp, \$75; Icom AG-25 mast mount 2 meter pre-amp, \$90; Cushcraft AP-8 8-band trap vertical with radial kit \$100.00. Contact Glenn Miller/AA5PK at aa5pk@outlook.com or (325) 949-4775 (evenings).



Scanner Jack's Corner de Jack Roberts/KB5TMY

For football and basketball fans, you can monitor these frequencies for all home games:

ASU Football 154.570 (Ops), 155.8275 (ASU PD Channel 1), 450.250 (Link to 94.7 FM radio station), 463.325 (ASU Maintenance), 452.800 (ASU Basketball Ops), 155.520 (ASU PD Channel 2 Call Boxes), 450.925 (Link to 1260 AM radio station), 462.7125 (Central HS Football Ops), 450.250 (Link to 94.7 FM radio station), 461.375 (SAISD Maintenance BASE 1), 461.050 (SAISD Base 2 Bus), 462.7125 (Lakeview HS Ops), 450.250 (Link to 101.9 FM radio station Lakeview), 461.375 (Base 1 SAISD Maintenance Lakeview), 461.050 (Base 2 SAISD Bus Lakeview).

Monitor the following frequencies for school and road closures:

TXDOT Phone: 1-800-452-9292, 151.0250 (TXDOT), 151.0175 (TXDOT), 462.675 (REACT), 463.675 (Code Blue), 460.600 (Fire Dispatch Road Closures).

Other frequencies of local interest:

153.800 P25 Simplex (Constable and Wall FD Fire Ground Frequency)

Corrected AEP Backup TRS:

855.1625 (Channel 1), 855.8625 (Channel 2), 857.8125 (Channel 3), 855.4125 (Channel 4)

As always, if you have an amateur radio, scanner, all hazards (weather) radio, or digital TV converter that needs programming you may contact Jack at: (325) 651-4840 or scannerjack1@juno.com

West Texas Section News

de Billy Roberts / W5NPR
ARRL West Texas Section Manager

Fall weather in West Texas has been spectacular. After an unseasonably cool September with moisture in many areas, prompting some to predict an early winter, October has been warmer than average. At least in the Davis Mountain/Big Bend area, the average date of the first freeze has passed, and talk of an early winter has subsided. Fall rains have been good, with my gauge showing 2.95 inches in September and 0.90 inches in October. After a record setting low of 4.02 inches in 2011, and I was more fortunate than some, and after a slow start in 2012, I have gauged 17.09 in 2012. We have been blessed, and we are properly appreciative.

We are nearing the end of 2012, and West Texas Section Clubs are in the process, or soon will be, of election of officers for next year and for making plans for Christmas parties or annual banquets. My congratulations to all for their successful club years and best wishes for an even more successful 2013.

---JOTA (Jamboree on the Air-2012)---

JOTA 2012 was held this past weekend (October 20 and 21) with nation-wide participation planned. I was in Odessa all day on Saturday, and tied up with church activities most of the day on Sunday. I tried some of the scheduled frequencies both days without success. It was an excellent opportunity for Scouts of all ages to talk with licensed amateurs, work on merit badges and to be introduced to a hobby they will long remember, and hopefully will be the catalyst for future involvement. For those who made contact with Scouts, your participation is much appreciated.

---Section Emergency Coordinator Report---

In order to save space, the Monthly Section Emergency Report for September 2012 can be seen in its entirety by scrolling to the bottom of the West Texas Section Page. Once there, click on the link for the September SEC Report.

Howard Collier/WB5EKW, West Texas Section Emergency Coordinator

Thanks again for all you do for the West Texas Section. Hope to see each of you soon. 73

ARRL West Texas Section

Bill Roberts/W5NPR, Section Manager

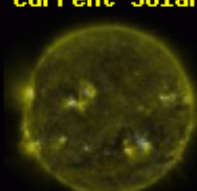
Recent Programs

January '12	Fox Hunt Information, Joe Kent, W5UI
February '12	National Weather Service Information, Hector Guerrero, KC5BRB
March '12	Amateur Satellite Operations, Glenn Miller, AA5PK
April '12	Let's Keep it Safe Out There, Matt Healy, W5MAT
May '12	Field Day is Just Around The Corner, Joe Kent/W5UI
Aug '12	SAARC Officer's Duties IAW Bylaws, Hughbert Robinson/KC5NPC
Sep '12	Storm Spotting—Weather Training Matt Healy/W5MAT, Hector Guerrero/KC5BRB

Upcoming Hamfests & Conventions

Date	Event	Location	Information
11/10/2012	NC Tech 2012	Azle, TX	http://wc5c.org/
01/12/2013	2013 Amateur Radio Fiesta	Schertz, TX	http://w5sc.org
01/18/2013	Cowtown Hamfest	Ft. Worth, TX	http://cowtownhamfest.com
03/08/2013	Green Country Hamfest	Claremore, OK	http://www.greencountryhamfest.org
03/16/2013	Williamson County ARC☐ Hamfest	Georgetown, TX	http://www.wcarc.com
03/16/2013	St. Patrick☐ Day Hamfest	Midland, TX	http://www.hamfest.w5qgg.org/index.html
03/23/2013	Greater Houston Hamfest	Rosenberg, TX	http://www.houstonhamfest.org
04/20/2013	Ham Expo	Belton, TX	http://www.tarc.org/hamexpo/

Solar-Terrestrial Data/Predictions at www.qrz.com

05 Nov 2012 2228 GMT	Current Solar	Band	Day	Night
SFI 096 SN 046		80n-40n	Fair	Good
A 002 K 1		30n-20n	Good	Good
XRY 82.1 304A 143.7		17n-15n	Fair	Fair
Aur 6 Lat 60.7°		12n-10n	Poor	Poor
Bz -0.9 SH 277.0		Geomag Field	VR	QUIET
PF 0.1 EF 36.6	Sig Noise Lvl	S0-S1		
MUF Boulder 28.52	CME (UTC)	None		
EME Deg Fair				

(C) P Herrman N0NBH 2012

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 (PI 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
10/8	KD5URW	13	12	444.350
10/15	KD5URW	10	11	444.350
10/22	KD5URW	11	15	444.350
10/29	W5MAT	12	13	444.350
11/05	KD5URW	15	14	444.350

Concho Valley Two Meter Net

<u>Date</u>	<u>NCS</u>	<u>Check-ins</u>	<u>Duration</u>
9/24	KB5FNK	16	17 min
10/1	KB5FNK	18	15 min
10/8	KB5TMY	12	16 min
10/15	KB5FNK	18	19 min
10/22	KB5FNK	15	16 min
10/29	KB5FNK	19	14 min
11/05	KB5TMY	20	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		
146.62-	Brady PL 114.8 (Echo-Link Node)		

Membership Renewal

Membership renewals are due in January 2012. 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



P.O. Box 4002
San Angelo, TX 76902-4002

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

2012 SAARC Officers:

President - Joe Kent/W5UI
Vice President - Matt Healy/W5MAT
Secretary/Treasurer - Bob Freeman/KD5PIX
Emergency Coordinator - Mike Dominy/KD5URW
Activities Manager - Hughbert Robinson/KC5NPC
Grounds Chairman - Marcus OQuin/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 Gary Chaffin/W5ETJ at
(325) 949-0186 or email gchaffin@gmail.com

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



Next Meeting: 11/08/12

*PROGRAM: Tiny Tracker GPS Position Encoder
Mathis Field Clubhouse*