L.A.R.A. Newsletter February 2017

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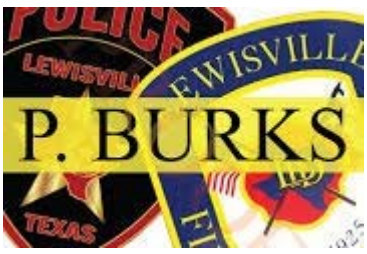
Membership items: Sharon, KE5JUI, ke5jui@arrl.net, 972-900-2899

IN THIS ISSUE

From the Prez

It has been a very sad time for a lot of our members, filled with loss and sorrow. It's not ever easy to say goodbye to those we love and care for. Some of them have lived long lives, full of pain and suffering and then some just leave us way too fast.

There was a great loss in our community, 911 Dispatcher Patrick Burks. He was on the other end of the line when you needed help; if you called he was there. He would send the police if you had a bad guy at your door or your cat was in a tree and you needed a fireman to help you. Whatever you needed he was there. Helping others is what he did. In memory of Patrick I ask you to tell your friends how much they mean to you and for those who have lost friends, and loved ones I'm sorry for your loss. You are in my thoughts and prayers.



If you didn't come out to Winter Field Day, boy you missed out on the fun. We had a lot of radios, friends, and food thanks to Jim K5VZ. The antennas were high in the air, the signals clear and strong, the food was warm and great. The night had a chill as I dozed off on the floor of the cool trailer and I was wishing there was someone there to keep the radio going. Then Steve, W5JK was knocking on the door at 1:30 am when the LP gas alarm awoke him in COMM 160. If you missed out you can plan on staying out with us all night this summer during Field Day! Thanks to all who came out.

We have a lot going on in the next few months. It's time to start thinking of voting on the officers, so we will be putting together a committee at the next meeting. Spring is just around the corner and it would be great to start planning days in the park.

73' until I see you a again

Information and Tips

By: Jim, WB8YWA

Adjusting the settings of your ALC (Automatic Gain Control) when using modes SSB and Digital

Why is this important?

- To stop interference to others.
- To stop distortion in your signal so others may copy your signal better.
- To improve the duty cycle of your transmitter.

SSB vs Digital mode (PSK31 and others).
Note: this assumes you have an ALC meter on your radio.

SSB transmit signal
You need to use some form of compression.
Note: RF speech compressor increases average RF output power, improving signal strength and readability in a SSB transmitted signal.

So let's set up your mic and compression settings on your radio:

1. Look in your operations manual for detail steps if you have it but, by following these steps (which are on my ICOM) should be very close to your radio. Remember you do not want to have a SSB signal that is wider than 3 KHz and by too much mic gain, ALC not adjusted will cause you to splatter into areas outside your 3 KHz bandwidth.

Compressor Bandwidths on most modern rigs are;

1. NAR is 2.0 KHz
2. MID is 2.6 KHz
3. WIDE is 2.9 KHZ

First steps for selection & setting up your Compression.

1. Preset these controls.
2. Compressor OFF.
3. Meter set to ALC.
4. Mic Gain mid-range.
5. COMP mid-range or wide if you do not have mid.
6. RF Power Max Output.

Hook your antenna connection to a dummy load and transmit at your normal voice level and adjust the mic gain control so that the ALC meter reads within the ALC zone, whether or not you speak softly or loudly.

Turn on the compressor to MID or WIDE (I never use WIDE unless in a pileup for DX.

Turn meter to COMP reading and adjust compression control so when talking all of your syllables fall within the 10 to 20 dB range.

By switching your meter to ALC and while transmitting you should always see the meter within the brackets of the ALC meter. If not you can adjust by lowering the compression to assure you stay within the brackets.

Note: if your meter does not have a compression range or selection, adjust the compression range to stay within the brackets of the ALC meter. Also, if your mic and compression are setup as above there is no need to hook up the ALC to your Linear Amplifier. Most amps have the ALC set so tight by using it from the rig causes low output of the amp. Most times it is hard to get radio and amp on the same page, so it is best if the radio is set then you will not over drive amp and it is not needed.

PSK and Digital modes
Note: Digital modes, such as PSK31 are more sensitive to nonlinearity from ALC action than are voice modes.

1. Always turn **OFF** your compressor when using digital modes.
2. Always have your meter set for ALC and watch it from time to time.
3. Always adjust xmit level on your interface so you always stay within the brackets of your ALC meter. If your interface does not allow this adjustment use your mic gain and remember to return it back before SSB transmitting.

Things to remember

1. When audio is used for digital transmitting it can be very hard on your transmitter because:
   - The RF output is at 100% duty cycle of your transmitter. So treat your output accordingly by lowering your power out. For PSK I have talk around the world with just 20/25 watts.
   - If your radio puts out 100 watts I would never go above 40/45 watts output on digital mode.
   - Watch the heat generated by your finals. They are very expensive to replace.
2. On PSK 31 your signal is only 31 Hz wide. That is where the 31 comes from in the name. In the 3 KHZ bandwidth of SSB 10 stations can communicate in the same area only one can on SSB. So if your ALC is not adjusted correct when you transmit your digital signal will be wider than the 31 Hz and everyone on the waterfall can see just how wide it is. They will let you know too. If your signal is good they will brag you up by stating that and if you are wide they will let you know even faster.
3. When using SSB and wanting to break into a pile up for DX. Remember by having your compassion set right will make a huge difference if he or she hears you but at the same time if you do not have it set right and just crank up the mic you will be splattering everyone and not making the contact or others happy.

(Continued on next page)

(Continued from page 2)

4. If you key your mic and see power out on your watt meter, your mic is too high and needs to be turned down. You should not have back ground noise in your signal.
5. A lot of hams love to see meters bounce when they talk and have adjustments too hot.
6. Great test on SSB is to talk to someone who knows you and ask if you sound pretty normal to them.

Various Tidbits

SKYWARN Training, February 25

Texas Woman's University-Multipurpose Classroom Laboratory, N. Bell St. Denton
9:00AM-12 Noon (basic) 1:00-4:30PM (adv.)

Local Nets

There are Dallas/Fort Worth nets that are open to all hams listed at http://www.n5lxi.com/ham/dfw_nets.html. They serve many different functions and are often a good place to meet other hams.

Texas State Parks on the Air

The Lake Area Amateur Radio Klub (K5LRK) is organizing the Texas State Parks on the Air event this year. The event will take place on April 8-9 2017.

The event website is http://tspota.org. On the website can be found the rules and list of Texas State Parks designators.

Special Events

The Navajo Code Talker Special Event
August 13 – 16, 2017
Check out N7C on QRZ.com

SUBMARINE USS BECUNA SS-319
Operations by former submariners
Check out N3SUB on QRZ.com for more info

Upcoming Events

Go to the L.A.R.A. web site – click here
Scroll down on the home page to reach the Upcoming Events Calendar

Have you been cleaning out your shack and have some items you would like to sell? Post them here and give other club members the opportunity to enjoy your goodies. Send the description, price and contact info to rfavcon@verizon.net.

1. **Ten Tec Orion 565 – SDR Transceiver**
   Main and Sub-Receiver
   10 thru 160 meters plus general coverage
   Equipped with:
   - Standard roofing filters – 15khz, 6khz, and 2.4khz
   - Optional filters – 1khz, 600hz, 300hz
   - Built in auto-tuner for main and sub receivers

   Went into TenTec November 2013, complete check-up, alignment and all updates, replaced lithium memory battery.

   Requires external power supply, speaker, and microphone.

   $1300 w/all filters or $1200 w/three standard filters
   Great DX'ing, weak signal, and contest radio

2. **Yaesu FT-736R VHF/UHF All mode transceiver - $600 (w/listed modules)**
   Modules included:
   - 144 MHz (2 meters)
   - 430 MHz
   - 54 MHz (6 meters)
   - Auto-Tuner
   - All bells/whistles

   Radio has one remaining open slot for an additional module (e.g. 220 MHz, or satellite)

3. **Yaesu SP-767 Communications Speaker - $75**
   Matches FT-736R
   Two inputs A or B
   Six selectable built in filters

4. **Yaesu MD1 dynamic microphone - $35**
   Matches FT-736R

Contact Steve, W5JK (skline4@verizon.net) concerning these items.

DX Corner

CQ CQ DX de "Whiskey Five Juliet Kilo"

January was a busy month, contest after contest filling the bands, and prep work for our own LARA winter field day event. February arrived much too fast, and is short at that. Since posting the first DX article in January's newsletter, I've been doing some reading and searching about how best to dissect and delve into the topic of DX'ing.

There are a number of very cool recognition awards that you can earn to hang on your shack wall, like the CQ DX award and ARRL DXCC award. Although both are similar, each is sponsored by different amateur radio organizations; the DX entities that make up each respective award differ slightly between the two organizations. DX awards can be obtained from single band, single mode, to a combination of all bands, all modes, referred to as "Mixed" award. Let's think about this for a minute… hundreds and hundreds of entities that can be collected for a single band or a single mode, or a combination of mixed bands mixed modes.

What is an entity? An entity at one time was defined as a country. There were definitions and minimal requirements to qualify as a valid DX country and ongoing rigorous discussion (pro and con) ensued as to what constituted a country and such things as when did a country cease being a country? What happens when all inhabitants, local presence is gone? To get around many of these qualification issues, it became simpler to just identify CQ DX and DXCC awards countries as entities, and redefine what an entity is today. So for award purposes hams collect "entities" rather than countries. Most DX entities are also countries but some like our Hawaii and Alaska, while considered to be DX entities, they are not countries.

How do you slice all of the entity information up, track it, document it, and submit for certification? What award do I want to shoot for? If we just focus on HF only for this discussion, there are nine bands 10 thru 160 meters, and 347 or so tracked entities give or take a few. You would have to spend a considerable amount of time to work all entities for each of the nine bands, for each of three modes in each band. Exhausting, yes most likely. I'm not sure that feat has ever been achieved by anyone that I can recall. So, back to reality and shallower water. What would be a good target for a beginning DX'er? Maybe pick a single band and your favorite mode, re-evaluate your station resources. Where are my antennas best? Do they work better in the lower part of the band (CW/digital) or perhaps are better higher up in the voice band? By the way, you absolutely do not have to be a "Big Gun" with acres of aluminum hung in the air, stacks of kilowatt amplifiers, and wall-to-wall racks of equipment and gadgetry. The majority of DX'ers fall into the small gun category. A typical low tech DX'ing station commonly consists of a single hundred-watt radio, tuner, computer, logging software, center or end fed long wire, or a single resonant wire antenna, or simple multi-band vertical trap. Some operators residing in areas governed by covenants and deed restrictions successfully resort to very stealth antennas, flagpoles, and/or some combination of loop/attic/indoor antennas. How can a small station be successful? Think about the modes of communication available to you that can assist you in leveling the playing field using your specific station environment. What do I mean exactly? You have at your disposal CW and Digital modes (PSK, CW, RTTY, JT65, etc.) narrow bandwidth, low power, and extremely efficient. With a modest antenna you can work the world with 100 watts or less using any one single mode or some combination of all. Maybe incentive to learn and become proficient with Morse to make a successful contact? You bet. Maybe LARA beginning Morse class? Possibility!

Remember in order to qualify for CQ DX or DXCC award, you're only required to work and confirm one hundred entities, not the entire 347 plus. After completing either award working more raises your total tally amongst all DX award achievers and moves you higher up the ranking ladder. The first step is to just get to the ladder and be recognized. Very cool!

If you're looking for excitement, something purposeful, fun, a new challenge, something more competitive than just rag-chewing, and have a desire to achieve a very recognized award in the ham radio community to hang on your wall, then pick your favorite band and mode(s) and prepare to start knocking off that first 100 entities.

In the next article we'll identify the geographical regions making up the 347 plus entities; we'll break the entities down into geographical regions, with the United States in the center; we'll look at the entities in each region, identify low hanging fruit, and talk about some strategies to snagging your first 100 for CQ DX or DXCC awards. Enjoy!

Spotted DX:
Saturday and Sunday (2/4 and 2/5) a great propagation path could be found on 17M. While working my way across 20M, I received a call from KC5MPX alerting me of an opening on 17M. This was around 1900Z and lasted until at least 2200Z. What a surprise. Was able to hear and work seven new countries on this band in little less than an hour (Belize-V31, Aruba-P49, Brazil-PY5, Venezuela-YV1, Saskatchewan-VE5, Puerto Rico-KP4, and last but not least Panama-HP1.

Belize was nice to reach, as I visited there several years ago. Best find in the opening was Panama station (HP1AVS/B). Yes, this is a beacon station and is operated by Victor Sierra, call sign HP1AVS a member of the Panama Canal Amateur Radio Club. He began transmitting a beacon on 17 meters in February 2002. He's using an inverted V and only 2.5 watts of power (that is QRP level). This is a working example of what I mentioned earlier about low power digital modes and the ability to work the world with one hundred watts and a resonant wire. Beacons typically transmit their information using CW. If you tune to 18.095, and set your receive mode to CW you will hear a 30 second info bulletin about the beacon. If you copy and receive the beacon the bulletin provides QSL information. I'm going to give you the context of the bulletin but tune over to this frequency and see if you can copy the beacon yourself, it's good practice. The speed is not terribly fast either, about 15-18 wpm.

Here's the context of Victor's bulletin:
VVV HP1AVS/B FJ0873 QSL VIA HP1RCP AT HOTMAIL.COM TU (thank you) dit dit.
I could hear the beacon on both my Yagi and my wire antenna. Of course bit stronger on Yagi, but the point I want to make is regardless of big or small antenna, this entity/country was workable. Beacons can be very helpful in identifying open propagation paths even though you might not see a blimp on your spectrum screen or hear much of any QSO activity. Beacons are everywhere, so include them in your hunting strategy. Here's a picture of HP1AVS' shack and op Victor.

What's nice about 12, 17, and 30 meters is there is no contesting in this spectrum. So on busy contesting weekends check out some other good DX sanctuaries in this space. Not your typical small station is it, but beacon sure is small!! Hey, if you can hear the beacon send for a QSL card.

Cheers, have fun- W5JK

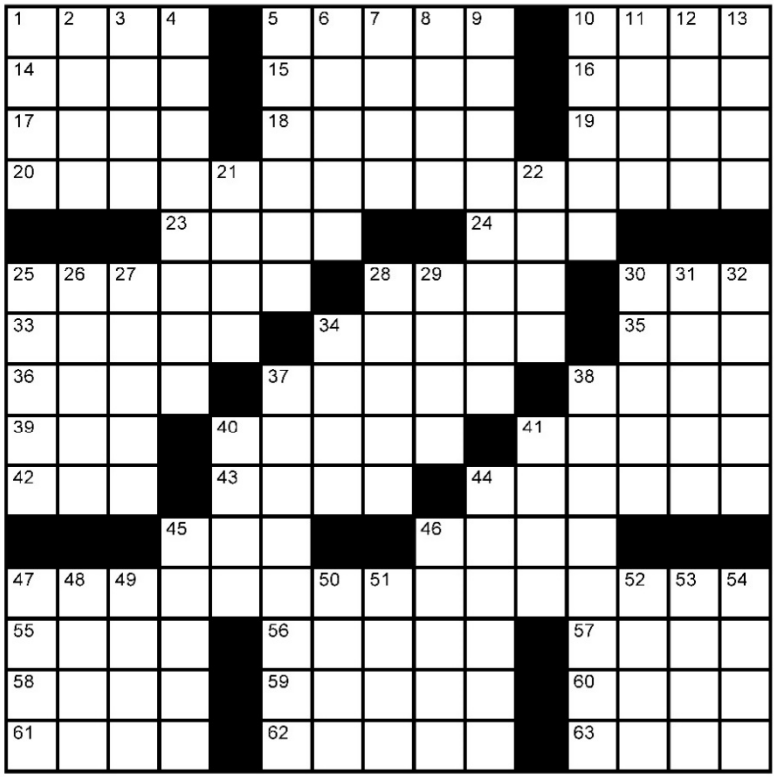
Cross Word Puzzle of the Month

All puzzles are published with the permission of the author.

Answers on page 9

by Chris Codella, W2PA 3/10/2008

CQ Contest



Across

1. Radiation pattern part
5. Contest off-time ender, possibly
10. The "Olympics" of contests
14. IOTA item
15. Unusual object
16. "Long ____" (DX)
17. VE8 mobile?
18. Hammerin' Hank
19. 1091 using 44-across
20. An advantage of being weak?
23. In early radio, some rotated and some didn't
24. Foot part
25. Wayward circuit paths
28. Knight neighbor
30. 3W holiday
33. QTH on the range
34. 160 meter Stew
35. The one with QTC
36. Sheltered, when /MM
37. They don't count, and may count against you
38. CW parts
39. Plating material
40. Typewriters (in ham speak)
41. Military cap
42. The only CW many people know
43. One way to stand by
44. Abbreviated figs. (abbr.)
45. AMSAT launch partner
46. Currency used by 45-across, mostly
47. Predatory contesting?
55. EI-land, in EI-speak
56. VQ9 first name
57. They make the 45, sometimes for big guns
58. Western competing org.
59. 3:1 dash to dot ratio, say
60. "Yikes!"
61. Biblical verb
62. Prefix with -cotta
63. Xtal filter replacements

Down

1. Daffy Duck's programming language?
2. LA city
3. A fuse maybe did this
4. Many hams also have one
5. Bidirectional flow
6. KH6-fests
7. June VHF QSO Party sponsor
8. Funny one
9. Non-op hams at 10-across stations
10. Large cetacean
11. Suffix with glitte- or lite-
12. Twiddle the big knob
13. Yaesu front panel marking
21. Contesters try to maximize it
22. 21-down, for a first-time contester?
25. 'Test results figs.
26. Prefix with centric or sphere
27. A band sometimes does it at dawn
28. CQ answer
29. Valuable minerals
30. Region net for NNJ and others
31. Gourmand
32. NAQP, CQWW and others, briefly
34. Push-___
37. Response to a contest exchange, say
38. Took an alternate route
40. Catchall abbr.
41. QSL handler, slangily
44. Vaulted roof
45. Construct, as a tower
46. "Nevermore" quote quoter, informally
47. Transmit
48. Kit maker, once
49. Ominous noises from the amp, maybe
50. Assistant
51. At no time, poetically
52. Holiday drinks
53. OM in G-land
54. High V points on a dipole

Technical Director's Corner

By: **Erick, KO0M**

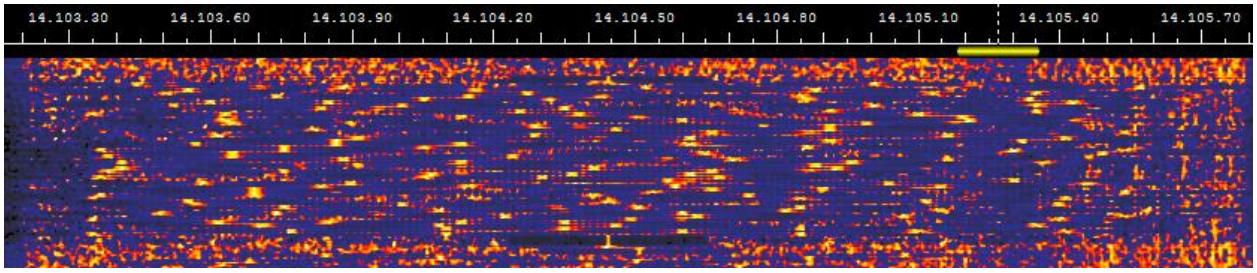
ROS Digital Mode

What is ROS mode? ROS comes from the author who invented it, José Alberto Nieto Ros.

According to the author:*" ROS is not a time-locked mode, thus it doesn't need a precise clock synchronization between computers, as opposed to other weak-signal modes such as WSPR. This, combined with superior data-rates and interactivity (TX and RX timing are managed by the user and it's practical to have live-keyboard conversation just like BPSK31), would allow a DX'pedition to work in remote locations without needing accurate clock synchronization via Internet or GPS."*

From interview: DxCoffee September 13, 2010
ROS was written in Visual Basic and at this time the author does not see a future in porting it to other OS's at this time; sorry Mac and Linux users.

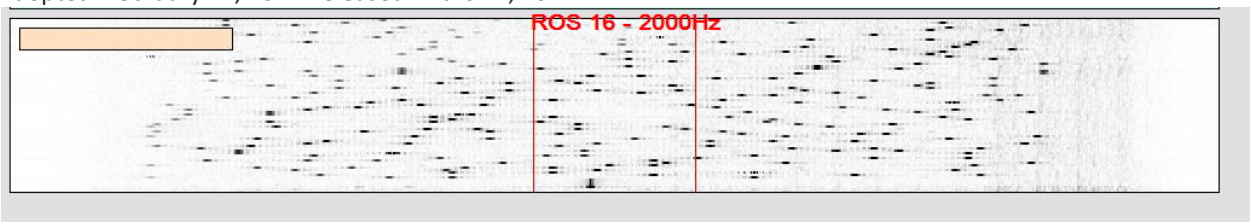
To use ROS you can use any type of antenna, but with the enhanced capability of over 10dB the author recommends that any simple array should be capable of excellent results. It has been reported that with power levels as low as 5 to 20 Watts, people are getting excellent results as well. Another recommendation by the author is that your computer clock must be over 1 GHz as anything below that will NOT be fast enough to keep up and follow the signal. There is not really a requirement for a soundcard for this software but, since I use a 'SignaLink' device already I was not concerned about trying to make my internal sound card work for this program.



The main author is in Europe and in Europe they allow spread spectrum radio on the HF bands. Part of this labeling is probably marketing and trying to capitalizing on a buzz word of Spread Spectrum and give it a techno feel to those who are both computer nerds and ham nerds. Spread Spectrum came from the military and I think also gives it a bit of a cool factor for some people. That said let's look how the FCC defines Spread Spectrum:

"Spread spectrum techniques are emissions that use bandwidth-expansion modulation >techniques to intentionally spread the information transmitted over a wide bandwidth. At any frequency in the frequency segment or bandwidth the SS emission occupies, either the spectral power density of the transmitted signal is reduced to a comparatively low level or the duration of the transmitted signal is very brief."

Source: WT Docket No. 10-62 RM-11325 REPORT AND ORDER
Adopted: February 22, 2011 Released: March 4, 2011



The FCC's ruling on whether ROS is SS or not probably has more to do with possibly too much conflicting information at this point of the game. The author of ROS call it SS but, in lifting the hood and seeing what is inside the actual protocol reveals this is not the case. It is not spread spectrum, it does not hop around the VFO frequency dial. It is FSK according to a programmable algorithm they use. Therefore, meeting the 1 KHz shift 300 baud rule (FCC §97.307(f)3).

“Only a RTTY or data emission using a specified digital code listed in §97.309(a) of this part may be transmitted. The symbol rate must not exceed 300 bauds, or for frequency-shift keying, the frequency shift between mark and space must not exceed 1 kHz.”

ROS uses multiple tones over either a 2 kHz or 500 Hz bandwidth; the software has hard coded information for each mode and bandwidth. ROS had three speeds, like some old cars, 16 baud, 8 baud, and 4 baud (remember those old computer modems?). There are some other special modes it has as well: 7db/100Hz for 136 and 502 kHz and 80m, an ‘EME’ mode for use on 2m and some of the other bands. It uses these modes for weak signal work as it has, according to the specs and the numbers, the capability to decode signals that have a signal to noise ratio (SNR) of -35dB, much lower than WSPR.

ROS is not very popular here probably due to the above concern and that it’s totally mislabeled as SS. Some are probably waiting till the FCC rules on what ROS is truly and where it can be used. So for now it’s open territory and there might be quick sand pits you can fall into but, who knows.

Next month Part II of ROS and what programs you can use for ROS and more details on ROS.

Until Next time 73’s KO0m

January Meeting Minutes

Recorded by Allyssa, KG5DAS

LARA Meeting Minutes 1/21/17

President Len Shipp, KC5MPX, called the meeting to order at 0803

Officers in Attendance:
President: Len Shipp KC5MPX
Vice President: Jim Lavin K5VZ
Secretary: Allyssa Shipp KG5DAS

Attendance:
Members:
Ron Ford KF5OMH
Walter Logan AG5CF
Mike Beck KG5QIY
Tim Monk WZ5TM
Mike Reitz W5EVT
Jim Horton WB8YWA
Brian Ulmer KC5MPY
Lee Norup K5WXR
Steve Kline W5JK
Marty Wells KM5OI
Clark Highsmith K5LGX
John Lundy KF5FOX
Erick Guzowsky KO0M

Meeting Minutes from last meeting were approved as posted in the Newsletter.
Motioned by: Lee Norup, KF5WXR
Seconded by: Jim Horton, WB8YWA
Approved by the Members

Treasurer's Report was given by Allyssa Shipp, KG5DAS:
Beginning balance $2069.83. No Activity
Motioned by: Jim Lavin, K5VZ
Seconded by: Tim Monk, WZ5TM
Approved by the Members

Technical Report as given by Len Shipp, KC5MPX:
Everything working right.
220 is up
Motioned by: Allyssa Shipp, KG5DAS
Seconded by: Clark Highsmith, K5LGX
Approved by the Members

New Business:
Winter Field Day January 28-29
Junk Box Pass-off - Lee Norup K5WXR
Skywarn Class on February 25

Old Business:
Junk Box Pass-off
Event T-Shirts

Upcoming Events:
Winter Field Day
Skywarn Class

Presentation: How to Connect to the 220 Repeater through the Internet by Jim Lavin, K5VZ

Motion to close meeting made by: Allyssa Shipp, KG5DAS
Seconded by: Mike Reitz W5EVT
All Members Approved
Meeting Closed at 8:59

L.A.R.A. Officers

Position	Name	Email
President	Len Shipp	kc5mpx@gmail.com
Vice President	Jim Lavin	jlavin@jimlavin.net
Secretary	Allyssa Shipp	allyssashipp@gmail.com
Treasurer	Sharon Howard	ke5jui@arrl.net
Technical Officer	Erick Guzowsky	zaphod1@swbell.net

Area Repeaters

Courtesy: DCARA *EXCITER* Newsletter

Freq.	Shift	PL	Call	Name
145.1700	-.600	110.9	W5FKN	DCARA-Denton County EOC
145.2100	-.600	110.9	N5MJQ	Metrocrest ARA-Carrollton
145.4000	-.600	110.9	NETARC	Grapevine
145.4900	-.600	85.4	WD5U	Rosston Tower
146.9200	-.600	110.9	W5NGU	DCARA - Denton
147.300	+.600	114.8	N5ERS	Flower Mound
147.3800	+.600	110.9	K5LRK	LAARK - The Colony
224.000	-1.6	110.9	K5LRK	LAARK - The Colony
224.080	-1.6	110.9	W5LVC	LARA
224.920	-1.6	110.9	AF5RS	AF5RS
441.3250	+5.0	88.5	W5NGU	Portable DCARA repeater
442.7500	+5.0	110.9	KA5R	Trophy Club
444.5125	+5.0	123	KE5UT	Celina
442.1750	+5.0	110.9	NETARC	Southlake
442.6500	+5.0	110.9	N5MJQ	Metrocrest ARA-Carrollton
443.3000	+5.0	110.9	K5LRK	LAARK-C4FM on*ly*
443.5250	+5.0	118.8	WA5LIE	DCARA - Denton
443.7375	+5.0	141.3	N6LXX	Rosston Tower
443.8750	+5.0	110.9	NETARC	DFW Airport
444.0500	+5.0	110.9	W5NGU	DCARA-Denton County EOC
444.2250	+5.0	110.9	K5CFD	Coppell
444.7000	+5.0	110.9	NETARC	Southlake
444.8500	+5.0	110.9	N5ERS	Flower Mound
927.025	-25.0	D532	N5ERS	Flower Mound
927.4125	-25.0	432	N5LS	Denton
927.6125	-25.0	110.9	W5NGU	DCARA-Denton County EOC
927.1375	-25.0	131.8	W5FKN	Decatur
1253.6000	none	none	W5NGU-G	DCARA - EOC - D*Star "G"
1293.4000	-20.0	none	W5NGU-A	DCARA - EOC - D*Star "A"
442.9250	+5.0	none	W5NGU-B	DCARA - EOC - D*Star "B"
147.4500	-1.0	none	W5NGU-C	DCARA - EOC - D*Star "C"
1259.2000	none	none	KE5YAP-G	DCARA-Rosston- D*Star "G"
1293.2000	-20.0	none	KE5YAP-A	DCARA-Rosston- D*Star "A"
440.7125	+5.0	none	KE5YAP-B	DCARA-Rosston- D*Star "B"
147.4900	-1.0	none	KE5YAP-C	DCARA-Rosston- D*Star "C"
DIGITAL	====	====	==========	==========
144.9100	none	none	W5NGU-4	DCARA Digipeater-Denton
147.970	none	none	K5YX-10	WinLink Gateway
144.990	none	none	KC5GOI	DCARA Digipeater-Rosston
144.990	none	none	KD5EOC-10	DCARA WL Gateway