AARCOVER

Keeping Austin Wireless
for Over 93 Years!

Bulletin of Austin Amateur Radio Clubs ISSN 1067-0262

November 2013 **Issue 11-2013**

The Austin Amateur Radio Club Christmas Party is on Dec 3, 2013

All are Hams WELCOME – You need not be a club member!
AARC Christmas Party
Dec 3, 2013 – 6:00 PM
Catfish Parlor - SOUTH
4705 East Ben White, Austin, Texas

- Live Entertainment from Ruby Dee and the Snakehandlers
- HOTY (Ham of the Year) Award Presentation
- Great Food – Choice of fried catfish, chicken fried steak or Grilled Tilapia and all the trimmings
- Door Prizes
- QLF (left foot) Morse Code Contest
- Cash Bar
- GRAND PRIZE

$20 per person includes: Dinner and dessert, non-alcoholic beverages, tax, tip, Free DIY parking…
Space is limited – ***buy your tickets by 11/30/13 PLEASE***
- Online at www.austinhams.org Click on the Christmas Tree!
By Mail: send $20/person to AARC, PO Box 4739, Austin, TX 78763
- Or in person at a Club meeting.

Periodic Events

Sun	7:00 p.m.	Travis ARES net	147.36 MHz + (131.8)
Sun	8:00 p.m.	Travis ARES Packet	145.73 MHz -
Sun	8:00 p.m.	Williamson ARES net	146.64 MHz - (162.2)
Sun	9:00 p.m.	ARO Swapnet	146.94 MHz -
Sun	(After Swapnet)	Newsline	146.94 MHz -
Mon.	7:30 p.m.	STX ARES Net	3.873 MHz
Tues.	7:30 p.m.	Hays ARES net	147.100 +
Tues.	8:00 p.m.	Bastrop ARES Net	443.750 + (114.8)
Wed	11:30 a.m.	Ham Social Luncheon, Jim's	146.94 MHz -
Thu	9:00 p.m.	2m SSB Net	144.250 (USB)
Thu	11:00 a.m.	Lunch, Pokey Joe's 183&Great Hills	444.1 MHz+
Fri	8:00 p.m.	6m SSB Net	50.230(texasvhf.org/)
Sat	7:00 - 8:30a.m.	Breakfast @ Waterloo Ice House	444.1 MHz +
Sat	9:00 a.m.	Chapter 67 QCWA QSO Net.	3.920 MHz LSB
Daily	6:30 p.m.	Central Texas Traffic Net	147.14MHz+

In This Issue

Ham Radio Exams Results

The following are the results of the ARRL VE Test Session held on October 12th at Bethany United Methodist Church:
Technician Class Licenses Processed
Howard L. Gentry III KF5YST
Christopher J. Germer KF5YSU
Tetsuya Tagawa KF5YSS

General Class License Processed
Robert M. Yates II KF5YSV

Examiners Participating in this Test Session
Rick Hanson W5GPW
Gene Hinkle K5PA
Jim Kinter K5KTF
Joe Makeever W5HS
Tom Nevue W2MN
Bill Wehling N5VE

Next ARRL VE Test Sessions
November 2nd - Bethany United Methodist Church, Disciple Bldg. Room 203/2004
December 7th - Bethany United Methodist Church, Disciple Bldg. Room 203/204

TNX ES 73 DE W5HS
Joe

10-19-2013
The South Austin W5YI VE team heartily congratulates the following people who earned new or upgraded amateur radio licenses at our October 19th session:

Extra Class –
John M. Rock, K5LRX

General Class –
Michael Dewane, KF5YTM (new)
Patrick Haugen, KC9QEO
Neil Smith, KF5YMG (new)
Christopher Wheaton, KF5YTS (new)

Technician Class - (new)
Mari Eggebraaten, KF5YTN (new)
James Kelly III, KF5YTO (new)
Ryan Russell, KF5YTP (new)

Our administering volunteer examiners were:

Craig Bean, AC5KW	Wally Marusa, K5WLY
Sam Mihalik, KM5MY	Gary Popp, AE5JR

Our next two amateur radio exam sessions will start at
2 PM on November 16th and December 14th (SECOND Saturday) in
Fleck Hall, room 118 on the campus of St. Edward's University.
All sessions are walk-in and the exam fee is $14.

For additional information regarding our amateur radio examination sessions, please contact Craig, AC5KW at (512) 474-6443 or by e-mail to hamradioexams@hotmail.com or visit our web page at
http://texashams.org/w5yi-austin/

Austin Amateur Radio Club, Inc., PO BOX 4739, AUSTIN TX 78765-4739, Web site: http://www.austinhams.org

President	Lori Schmidt	KM5MQ	512-632-6789	president@austinhams.org
Vice President	Rich Kerschner	KC9VFT		vice-president@austinhams.org
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ARRL Travis Co. Emer. Coord.	Don Dudley	AC5YK	512-680-0498	ac5yk@ arrl.net
TC ARES PIO	Steven Polunsky	W5SMP		tcares-pio@gmail.net

Please contact a club officer, attend a meeting, mail us to join the organization, you can also join or renew online.
The Austin Amateur Radio Club, Inc. (AARC) has annual membership dues of $20.00 per person or $30.00 per family. AARC maintains the following repeaters:

FREQUENCY	AUTOPATCH	USE
146.780	No	
146.880	Yes	General
146.940 107.2 PL Tone	No	Most popular, WX, Swapnet & Newsline
224.800	No	
444.100	No	
440.650 +5	No	70cm D-Star Repeater [W5KA]
146.480/+1.0	No	2m D-Star Repeater [W5KA C]
1293.200/-20	No	23cm D-Star Repeater[W5KA A]
1248.200	No	23cm D-Star DD (data, simplex/reversible) [W5KA A]

Persons using the repeaters are asked to join the club to help support these valuable resources. To use the autopatch, announce your call sign, press * and dial the phone number then release the PTT. When finished, press # to hang up the phone. Dial 911 (no * needed) for emergency services.

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Members and other readers are encouraged to submit material for publication. Call Mitch London, if mailed submissions are required. Electronic files are encouraged! Submissions may be edited for publication. **Deadline is the 22nd of the month.**
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For Changes in your ADDRESS, PHONE NUMBER or CALL SIGN:
See Jay Hoffman, KA5OST ka5ost@arrl.net
Jay handles all changes for membership information .

WANTED: SHORTED OR LIVE!

A reward of 500 microfarads is offered for information leading to the arrest of Hopalong Capacity.
This unrectified criminal escaped from a Weston Primary cell, where he had been Clamped in Ions awaiting the Gauss chamber.
He is charged with the induction of an 18 turn Coil named Milli Henry, who was found Choked and robbed of valuable Joules. He is armed with a Carbon Rod and is a Potential killer.
Hopalong Capacity is also charged with driving a DC motor over the Wheatstone Bridge and refusing to let the Band Pass.
If encountered, he may offer Series Resistance. The Electromotive Force spent the night searching for him in the Magnetic Field where he had gone to Earth.
They had no success and believe Capacity returned Ohm via a Short Circuit.
He was last seen riding a Kilocycle with his friend, Eddy Current, who was playing "Ohm on the Range" on his Harmonica.
[Captured on the packet circuit, 7/92 credited to the Laural, MD, ARC Feedback - Ye Olde Editor]

(Forwarded by Joe Fisher, K5EJL)

Over the WWWaves...

A Collection of useful and interesting Websites sent in by our readers

(All links have been checked by editor as working at time of publication)

There is a new amateur radio Internet stream on RadioReference.com. It broadcasts most of the operational amateur radio repeaters in Travis, Williamson, and Bastrop counties for 2m, 70cm, and 33cm.
http://www.broadcastify.com/listen/feed/14419

Forwarded by: Kyle KD5EUO

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Continuous Wave, which was different than the first type of radio which was spark which was Damped Waves, called Type B Modulation, while Continuous Wave was called CW modulation, or type A1 modulation. https://en.wikipedia.org/wiki/Damped_wave
So we celebrate a bit of history with the first CW transmitter, the Alexanderson Alternator. I asked Lars Kålland, SM6NM who runs the Grimeton Radio / SAQ transmissions from the last remaining operational Alexanderson Alternator for a recording of the last transmission from SAQ. He gave me one and I'd like to share it with you.
Story at http://www.grimeton.info/grimeton_radio_station.html
Nice photos are at: http://www.flickr.com/photos/cablefreak/3216881055/
Recording of SAQ is here:
http://archive.org/details/GrimetonRadioSaq201306300900UtcBroadcast

David N1EA
(Forwarded by Rick Herndon, K5FNI)

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Hams are always wanting to change voltages from one to another with low cost and simple operation. Reliability is a good thing, too.
Roman Black offers this switching regulator circuit http://www.romanblack.com/smps/smps.htm that also shows the theory of operation and some things to beware of when building your own version of it. This one is mainly set up for 5 and 12 volts, though the author mentions possibilities of using it up to 120 volts. That would probably be sufficient to provide power for receiving tube circuits for older radios.

I came upon the preceding discussion and circuit from this discussion of reusing the parts from the base of a defunct compact fluorescent bulb http://www.instructables.com/id/SKDOCN6FCHYO8RE/
The inductor from the first circuit can be made from the ones found in the base of the fluorescent bulb.

As usual, cautionary notes are found inside the articles. Don't skip over reading them OR heeding them while following the directions found there.

Forwarded by Rick Herndon, K5FNI

Club Dues for 2014 are Due!

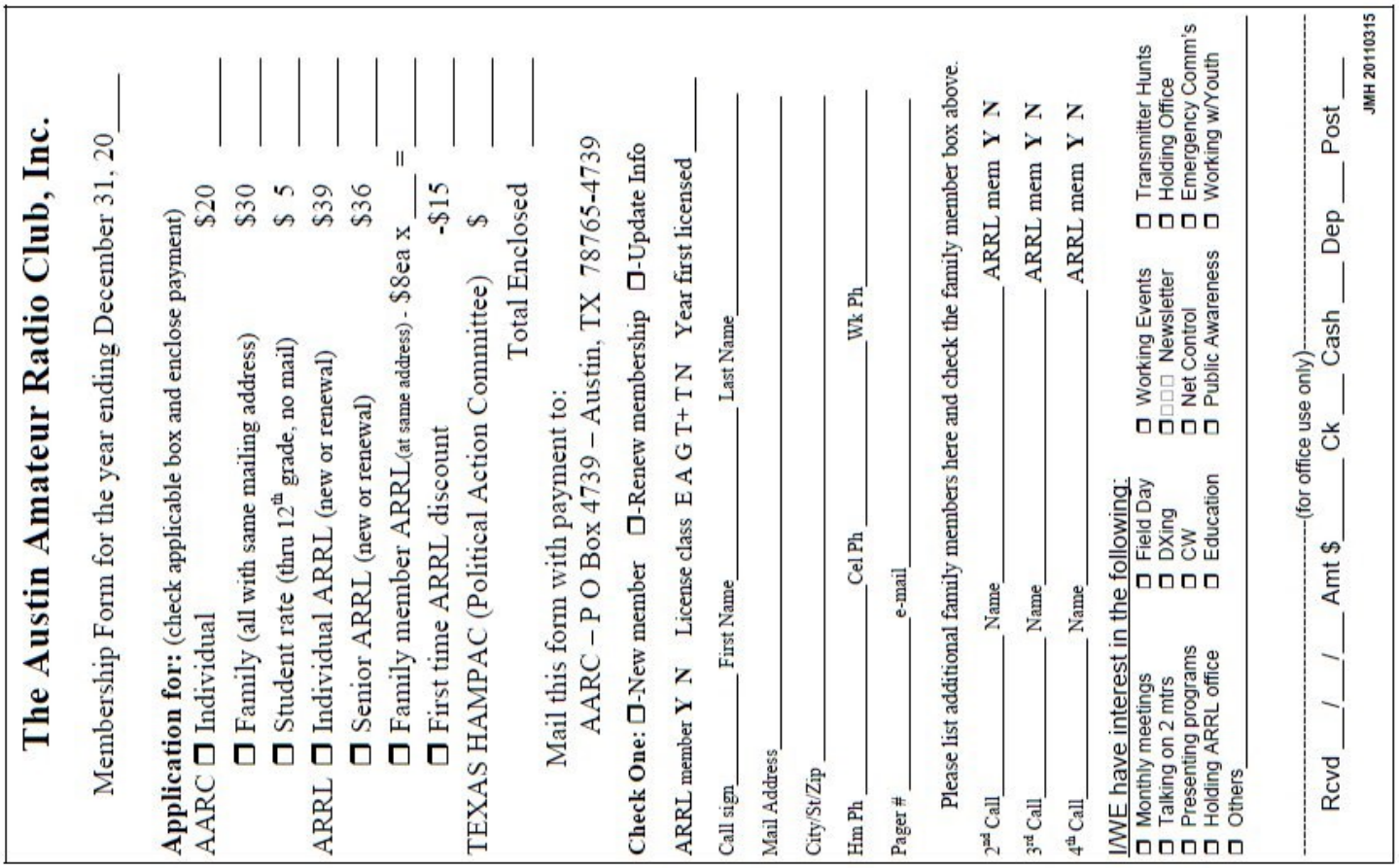
The new year is here and you might as well get a jump on things by paying your dues for the 2014 year.

Besides the admiration of your friends, you also get guilt free use of all club repeaters, access to club equipment, online help through the use of the Austin Hams Yahoo group and much more!
Be the first on your block to be a renewing member in 2013!

You can pay online at- **http://www.austinhams.org/join.htm**

Just fill out the .pdf form and mail to:

The Austin Amateur Radio Club
PO Box 4739
Austin, TX 78765-4739



The Austin Amateur Radio Club, Inc.

Membership Form for the year ending December 31, 20___

Application for: (check applicable box and enclose payment)

AARC ☐ Individual $20 ____
☐ Family (all with same mailing address) $30 ____
☐ Student rate (thru 12th grade, no mail) $ 5 ____
ARRL ☐ Individual ARRL (new or renewal) $39 ____
☐ Senior ARRL (new or renewal) $36 ____
☐ Family member ARRL(at same address) - $8ea x ___ = ____
☐ First time ARRL discount -$15 ____
TEXAS HAMPAC (Political Action Committee) $ ____
Total Enclosed ____

Mail this form with payment to:
AARC – P O Box 4739 – Austin, TX 78765-4739

Check One: ☐-New member ☐-Renew membership ☐-Update Info

ARRL member Y N License class E A G T+ T N Year first licensed ____

Call sign_____ First Name_____ Last Name_____

Mail Address_____

City/St/Zip_____

Hm Ph_____ Cel Ph_____ Wk Ph_____

Pager #_____ e-mail_____

Please list additional family members here and check the family member box above.

2nd Call_____ Name_____ ARRL mem Y N
3rd Call_____ Name_____ ARRL mem Y N
4th Call_____ Name_____ ARRL mem Y N

I/WE have interest in the following:

☐ Monthly meetings ☐ Field Day ☐ Working Events ☐ Transmitter Hunts
☐ Talking on 2 mtrs ☐ DXing ☐ ☐ ☐ Newsletter ☐ Holding Office
☐ Presenting programs ☐ CW ☐ Net Control ☐ Emergency Comm's
☐ Holding ARRL office ☐ Education ☐ Public Awareness ☐ Working w/Youth
☐ Others_____

(for office use only)
Rcvd ___/___/___ Amt $_____ Ck___ Cash___ Dep___ Post___

JMH 20110315

Cable Falling Behind Your Desk? Try This!

Forwarded By Rick Herndon K5FNI

Long-Delayed Echoes Copied On 7 MHz During CQWW DX Contest

A German radio amateur has reported the phenomenon known as Long-Delayed Echoes while operating on 40 meters November 27 during the 2010 CQ World-Wide CW DX Contest. Peter Brogl, DK6NP, of Furth, Germany, at first “thought someone was playing ticks on me,” the Space Weather website reported, when he heard a carbon copy of his signal 46 seconds later. So he changed frequency. After re-sending his callsign, he heard the echo again.

A geomagnetic storm was occurring at the time. For more than an hour, Brogl heard the echoes, allowing him time to make several recordings. Long-Delayed Echoes were first reported in 1927 by Norwegian civil engineer Jorgen Hals “but happen rarely and are not really understood,” according to a report on Amateur Radio Newsline. “Most researchers believe that unusual propagation conditions linked to solar storms may be one of many possible explanations.

15 Possible Explanations for Long Delayed Echoes

This page lists Shlionskiys's 15 possible explanations for Long Delayed Echoes (LDE) from his paper from 1989. The five most likely explanations according to Vidmar and Crawford [1985] are marked with numbers in square brackets ([1],...,[5]).

Group 1: Signals Reflected above the Earth's Ionosphere and Near-Magnetosphere at Considerable Distance from the Earth, in Outer Space.

Reflection from the Moon (and planets). The mean centre-to-centre distance from the Earth to the Moon is 384,403 km, subtracting the radii of the earth and the moon, the two-way delay may vary over 2x([363104 ... 405696]-6371-1737)/3e5 = [2.37 ... 2.65] seconds with a mean of about 2.5 seconds.

The first Moon-bounced echoes were heard in 1946, and reflection from the moon can quite easily be done at VHF-UHF frequencies. Radio amateurs communicate via the moon from 50 MHz and up to 24 GHz. An example of the typical delay at 144 MHz can be heard here (from site of Spanish radio amateur EA6VQ).

In 2008, a facility with big enough antenna (300 by 365 m) and high enough power (3.6 MW) was used to set a new record for how low in frequency on HF one can go and still get echoes from the moon: You can hear echoes at 7 MHz here.

Signals can also be bounced off all of the nearest planets and asteroids (Radar astronomy). A recent amateur experiment was successful in getting echoes from Venus with delays of about 5 minutes.

- Reflection of signals with 4-8 seconds delay from the solid surfaces of large meteorites and the surrounding ionization clouds circulating around the Earth beyond the lunar orbit.

[4] Reflection from clusters of ionized gas clouds in the Lagrange-Trojan regions. (Sun-earth L1, delay of about 10 sec or Moon-earth L4 or L5, delay of about 2.5 sec)

Reflection from a toroidal surface formed by streams of charged particles emitted by the sun. The distance was supposed to be several tens times the earth's radius and the model predicts seasonal behavior with best reflection during spring and fall equinoxes. This is Størmer's original hypothesis from 1928 which he also elaborated on in his book from 1955 a few years before his death. The existence of such toroidal regions with trapped particles in the Earth's magnetic field has later been confirmed (the Van Allen radiation belt), but the distance is only 4-5 earth radii, i.e. only about 0.2 seconds round-trip time.

Group 2: Generation, Reflection and Propagation of Delayed Echo Signals in the Ionosphere or Near-Magnetosphere, i.e. in a System Associated with the Earth's Rotation.

1. Signal retardation in the reflection regions of the ionosphere (the van der Pol hypothesis, 1928)
2. Signal channeling along long curvilinear trajectories in the vicinity of ionized formations with oblong shapes,. which occur beyond the earth and rotate with it (Pedersen hypothesis, 1929).

[1] The similarity between echoes and whistlers was noted early and it was proposed that the same mechanism could be responsible (Eckersley, 1928). Satellite measurements have confirmed the existence of magnetospheric ducts which give delays of 0.1-0.5 seconds but only up to frequencies of 4-5 MHz. Listen to examples here.

Resonators formed by so-called "bubbles", stretched along the magnetic field, with a considerably reduced electron density and which are formed at 300-500 km and up to several thousands of km, moving with a speed of up to hundreds of m/s.

[3] Conversion of the waves into longitudinal plasma waves and back in the vicinity of ionization and magnetic field inhomogeneities.

Ionospheric resonators formed by e.g. voids in the F-region stratification, more probable at low and high latitudes.

Resonant transfer of a portion of the energy of the electron flux, travelling in the reflecting region, a wave due to plasma-beam interaction and consequently some compensation of attenuation (analog to maser amplification). More probable in the auroral region where the electron fluxes are stronger.

Plasma memory: the ionospheric equivalent to the spin echo effect in nuclear magnetic resonance.

[5] Nonlinear interaction. Signals at two working frequencies, where the difference is close to the plasma frequency, interacting nonlinearly with the medium.

Soliton-like solutions with compensation effects in the nonlinear and weakly dispersive media which lead to the occurence of long-lasting and form-preserving signals. The effect is possible in ducts or resonators.

[2] Multiple round-the-world propagation of signals with focusing at the antipodal points (the Appleton hypothesis, 1928). In order to compensate for energy loss, it must be combined with focusing effects.

Listen to an example of a short delay version here.

References

1. C. Størmer, "Short wave echoes and the aurora borealis," Nature, No. 3079, Vol. 122, p. 681, Nov. 3, 1928.
2. T. L. Eckersley, "Letter to the editor," Nature, vol. 122, p. 768, Nov. 17, 1928.
3. B. v. d. Pol, "Short wave echoes and the aurora borealis," Nature, No. 3084, Vol. 122, pp. 878-879, Dec. 8, 1928.
4. V. Appleton, "Short wave echoes and the aurora borealis," Nature, 122, p. 879, 1928.
5. P. O. Pedersen, Wireless Echoes of Long Delay, Det Kgl. Danske Videnskabers Selskap. Math.-fys. Medd. 4 (5), pp 1-48, 1929.
6.C. Størmer, The Polar Aurora, 403 pp., Oxford Univ. Press, 1955.
7. R. J. Vidmar and F. W. Crawford, "Long-delayed radio echoes: Mechanisms and observations," Journ. Geophys. Res., vol. 90, no. A2, pp. 1523-1530, Feb. 1985.
8. A. G. Shlionskiy, "Radio echos with multisecond delays," Telecomm. and Radio Eng., Vol 44, No. 12, pp. 48-51, Dec. 1989.

Created 6 November 2007. Last updated 5 June 2012.

Club Minutes

Meeting Start 1900 hrs
Officers Present:
President: Lori KM5MQ, Vice President: Rich KC9VFT, Treasurer: Jay KA5OST, Secretary: Jorge KF5IED
55 bodies present
Birthdays: Sally Howard, AE5OM
Visitors: Shannon, KD4IYI, Jason, KD5LCT, AF5MG, Joe Garza, K5GRZ, Howard, KF5VNF, KF5YFQ
New Hams: 2 new hams
New Club Members Doug WA5WD Mike K5MSK Eric KF5WUT
Upgrades: None
Call Sign Changes: None
Approval Minutes: All in favor September as noted in AARC
Announcements:
Past Events: None
Upcoming Events: Oct 4-5: Belton Hamfest
October 19-20: JOTA
Oct 12-13: Bike - MS Ride to The River - need 2m/70cm voice and APRS ops. Contact N5MNW or KC5NKK for more information
December 3rd: Xmas Party - Catfish Parlor on Ben White for $20/person. Pay on AARC website or Jay Hoffman will take payment this evening. Ruby Dee and The Snakehandlers will entertain, grand prize will be a SONY multimode SW receiver.
Dec 8th - Decker Lake challenge 5k Broadband HAMNET and voice ops needed contact K5KTF@arrl.net
Club annual dues are due
T-Shirt and polos are available, contact Lori KM5MQ.
General Announce: Mitch KD5HCV, Big Bend Ultra looking for voice ops and digital come January contact MItch
Oct 21st-25th - School club Roundup - Lots of 20m SSB, PSK31 - Announce by Joe Fisher
Officer Reports:
President - Nothing to report
Vice President - Nothing to report
Treasurer - Nothing to report
Secretary - Nothing to report
Newsletter - Contact Mitch KD5HCT for sending articles
Technical - Stuart K5KVH - no update re: repeater project, all repeaters seem to be working OK
ARES: New ARES EC Don Dudley AC5YK. Also, N5HPC announced regular meeting 4th Tuesday of the month. Oct 26th, Statewide ARES drill, no internet ops. Dec 4th also multi-county ARES drill. Airport drill will be April 2nd. Contact tcares.org for more info.
BroadBand Hamnet: None **AARC Ladies Auxiliary:** None
Other SIGS - Website need to reflect new location for Broadband Hamnet at ACADIA Ambulance HQ Building
Old Business: None **New Business:** Club Officers Nomination. Mitch explained all the jobs for the officers including president, vice-president, secretary and treasurer
Nominations:
President: Lori 2 nominations
Vicep pres: Rich will run again
Treasurer: Jay will run again
Secretary: Jorge will run again
There were no other nominations. All officers will be voted on in November
New Business: Outgrowing WICEH - currently officers are looking for a new venue - restaurants. Please think of a location, contact one of the officers with your suggestions.
HOM: Helping involvement on MESH answering questions etc WIlliam Moyes KC6ARO. (Nominate someone!)
Door Prizes:
1. $20 tix for Haunted House WA5SND Doug Griffey
2. CR2032 batts - Sally Howard AE5OM
3. Haunted House tix - Crocket Grable KF5LTT

Solar Weather by Lew W5IFQ
Solar maximum is at maximum, magnetic field currently reversing. Solar flux is constant at approx 104. No sunspots are apparent. Coronal hole 588 is open, geoeffective about Sep 27th, also presented filament collapse, solar wind is expected by Oct 1st. Planetary K-Index is currently between 1-2. Solar Weather Forecast: Unsettled conditions oct 1st due to CH588. Sep 29 filament collapse will cause unsettled conditions on Oct 2nd-3rd with will drop FoF2 and MUF. Austin FoF2 ionosonde indicated MUF 31.4 oct 1st, FoF2 was at 10.450
txarmymars.org
spaceweather.com
Motion To Adjourn: 2005 hrs

Tonight's Presentation: Quadcopters and Radio by Erik O'Shaughnessy KF5WUT

AARC Meeting Info.
Waterloo Icehouse
8600 Burnet Rd. South of 183
(Come early and have dinner!)

Business Meeting 7:00 pm
November 5th - Officer Elections!! IMPORTANT MEETING!

Officers Meeting 6:30 pm
November 19th- Officers meetings are open to club members.

2013 Upcoming Amateur Exams

ARRL VEC– Nov 2nd & Dec. 7th 9a.m. at Bethany United Methodist Church. Contact Joe Makeever, W5HS (345-0800) or Joe Thiel, N5SMN (832-0450) for info. $15 fee.

W5YI VEC- November 16th & December 14th 2p.m. in **room 207**, Fleck Hall, St. Edwards Univ. Contact Craig Bean, AC5KW @arrl.net, (474-6443) for more info.
http://texashams.org/w5yi-austin/

2013 Calendar of Events

Nov 9 ***NCTECH 2013***
Azle, TX
Tri-County Amateur Radio Club (WC5C)
www.wc5c.org/WC5CClub/NCTECH/tabid/152/Default.asp

Dec 3 ***Austin Amateur Radio Club Christmas Party***
All are Hams WELCOME – You need not be a club member!
6:00 PM
Catfish Parlour – SOUTH 4705 East Ben White, Austin, Texas
See Page 1 for more info

Dec 6-7 ***Skywarn Recognition Day***

Austin/San Antonio National Weather Service Office in New Braunfels- WX5EWX

1800 6 Dec to 1800 7 Dec Local Time.

www.wrh.noaa.gov/mtr/hamradio/opsprocedures.php

Louis- K5STX k5stx@k5stx.net

Dec 8 ***Decker Lake Challenge Run***

Brown Santa 5K , Kids 1K

Broadband Hamnet and voice ops needed

Jim K5KTF@arrl.net

Upcoming Meetings...

Nov	Dec	Austin Meetings/Happenings	Time	Address
5	3*	AARC Meeting Waterloo Ice House	7:00 p.m.	8600 Burnet Rd.
no	21	QCWA Tres Amigos $	1:30 p.m.	7535 U.S. 290
27	25	Digital Wednesday at CATRAC	7:00 p.m.	4100 Ed Bluestein Blvd.
25	23	Travis Co. REACT Jim's 183 & Burnet	7:30 p.m.	9091 Research Blvd.
26	24	Travis County A.R.E.S., ARL Auditorium	7:00 p.m.	10000 Burnet Rd.
28	26	CERT Meeting, CTECC	6:30 p.m.	5010 Old Manor Rd.
26	24	CTDXCC Meeting Old Quarry Library	6:30 p.m.	7051 Village Ctr Dr.

AARC meeting will instead be the Christmas Party (See page 1)
% New Meeting Location for ATV
$ QCWA Now meets quarterly visit http://www.qcwa.org/chapter067.htm for info