

AARCOVER

Bulletin of Austin Amateur Radio Clubs

Austin Amateur Radio Club
Austin Amateur Television Club
Austin Repeater Organization

ISSN 1067-0262

October 2004

Issue 10-2004

LBJ High School Hams in Need

Forwarded by Roger Wine, W5WIA

Hey guys:

Thanks again for puling things together. After looking over curriculum plans and thinking things over a bit, I would appreciate it if you could find some folks to cover the following areas:

Practical Radio Operation

- **Setting up a Ham Shack* (explain different things needed including radio, tuner, balun, TNC's, computer, CW key, how to properly ground a radio/antenna system...)
- **How to operate on HF* (etiquette, making/chasing a contact, checking into Nets, Q-signs, etc...)
- **Working DX* (what it is, how to do it, dealing with language issues..)
- **Contesting* (various types) and using software to log contacts
- **CW /QRP*
- **PSK31/Packet*
- **Working Satellites*
- **Slow Scan TV*
- **Transmitter Hunting*
- * *Emergency Operation/Response/ARES* (some of this will probably be covered with CERT, but I'm looking for something along the lines of battery operated stations, portable antennas, working with community such as with ARES, etc.. Joe Fisher could probably fill this slot.)

(Continued on page 4)

Periodic Events

Sun	6:45 p.m., Bastrop ARES net	145.35-(114.8)/443.75 + MHz
Sun	7:30 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	145.13 MHz -
Sun	9:00 p.m., ARO Swapnet	146.94 MHz -
Sun	(After Swapnet) Newsline	146.94 MHz -
Mon	6:45 p.m., Hays ARES net	147.10 MHz -
Wed	8:00 p.m. Code Practice	146.78 MHz
Wed	11:30 a.m.-1p.m., Travis County ARES lunch @ Jim's	183 & Burnet Rd. 837-1119
Thu	11:30 a.m. - 12:30p.m.,lunch, Waterloo Ice House	444.1 MHz+
Sat	7:00 - 8:30a.m., breakfast, Waterloo Ice House, 8600 Burnet	444.1 MHz +
Sat	9:00 a.m., Chapter 67 QCWA QSO Net.	3.920 MHz LSB
Daily	CTTN Central Texas Traffic Net, 6:30 p.m.	147.14MHz+

Inside this issue:

Exam Results	2
Club Minutes	2
Fins, But No Fish	4
Factory Authorized Service	5
Smokey's Korner	6
NOUJR & His Friends	7

Club Minutes

ARO Meeting, September 7, 2004

The meeting was called to order at 7:14pm by President Jeff Schmidt, N5MNB, at the Marimont Cafeteria on 38th at Guadalupe.

Visitors: Tom Hartsell, KE5BTL, joined us as a new member.

Monthly Drawing Winner: Tami Friedman, KD5RJU, won the door prizes, a gold plated letter opener and a package of multi-colored cable ties.

Minutes: The August 2004 ARO meeting minutes as published in the AACOVER were approved.

Treasury Report: Treasurer Roger Wines, W5WIA, was absent but sent a bank balance of \$2166.50.

Technical Committee: No new issues reported.

Old Business: None.

New Business: None.

Web Site: Get info to Lee Cooper, W5LHC, or Mitch London, KD5HCV.

Ham of the Month: President Schmidt named John Benedict, KE5RS, as Ham of the Month for his automated program that configured the patient data for the recent ARES SET.

Equipment Loaner Program: The club's MFJ259B antenna analyzer, Yaesu FT530 dual band HT, and Kenwood TS140 HF rig are all available. Contact Lori Schmidt, KM5MQ, to reserve equipment and make suggestions for new equipment.

Announcements: President Schmidt ran through the scheduled meetings and swapmeets.

The business meeting was adjourned at 7:40pm.

Program: AACOVER editor Mitch London, KD5HCV, presented "My Vacation in Minnesota, or How to Find the Pavek Museum of Broadcasting". Mitch gave a humorous, if not somewhat tragic, overview of his recent trip to Minnesota to attend the 2004 US Transplant Games with his mother, a transplant recipient and award-winning game competitor. Mitch volunteers at the Transplant Games while mom competes. His main tale concerned the tribulations he faced in getting from the hotel to the Pavek Museum located in St Louis Park, MN. A simple bus ride? Not for Mitch. He turned it into an adventure. After leading us through half the city of St Louis Park, as seen in numerous digital photos, Mitch finally got to the Pavek Museum. He displayed many pictures he took at the museum. These included old movie equipment, TV cameras, phonographs, antique speakers, ham gear, and a large collection of tubes. If you ever get to travel with Mitch, rent a car and don't let him see the map – unless you really want to see sights that are definitely off the beaten track.

Submitted by John Suchyta, KG5O

ARO Secretary

AARC Meeting, September 14, 2004

The meeting was called to order at 7:09 pm by President John Suchyta, KG5O, at the ARL Labs on 10000 N. Burnet Road, Austin Texas

Visitors: Jack, WB0VMZ, & Sharon, KI4GFB, Heiss, Ramiro Montemayor, KD5MMJ, and Scott McMullen, NJ0E, visited with

(Continued on page 7)

Ham Radio Volunteer Exam Results

ARRL VEC – The following is a summary of the ARRL VE test session held at Murchison Middle School on September 11th, 2004:

Technician Class Licenses Processed

Thomas W. Chandler Charles S. Parker
Robert D. Wooten, KC5BME (**Tech +HF Priv.**)

General Class Licenses Processed

Wayne L. Smith, KE5CHG Herbert L. Tate, KC5HMC

Examiners Participating in this Test Session

Mike Blanchard, N5KDY Larry Gunter, WB5BEK
Jerry Jackson, N5UJ Joe Makeever, W5HS
Bill Montgomery, K5ZSI John Stott, AC5ZT
Joe Thiel, N5SMN

Next Two ARRL VE Test Sessions

October 9th - Murchison Middle School
November 6th - Murchison Middle School

TNX ES 73 DE W5HS

Joe

W5YI-VEC – The South Austin W5YI VE team heartily congratulates all of the following people who earned new or upgraded amateur radio licenses at our September 18th session:

Extra Class – none

General Class – none

Technician Class (all new licensees) –

Anthony Amaro, Jr. Gary Gomez
Marshall L. Kelly Marjorie R. Nadler-Olenick

Our volunteer examiner were:

Hugh Brown, NT5O Jimmy Mercer, N5WDH
John Fisher, K5JHF Sam Mihalik, KM5MY
Lloyd Goehring, N5TO Dennis Murphy, W5KQF
Jim Greenwood, AB5EK Roger Pfluger, AC5IP

Our next two sessions: October 16th, 2004 and November 20th, 2004 at 2 PM in room 109 of Fleck Hall on the campus of St. Edward's University.

Exam fee is \$12.00

**Please bring two forms of identification
plus your social security number.
Sessions are accessible to handicapped
applicants.**

**No pre-registration is required.
Walk-ins are welcomed.**

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

President	John Suchyta	KG5O	261-4931	kg5o@arrl.net
Vice President	Jerry Jackson	N5UJ	832-5663	jerry@gaj.com
Treasurer	Roger Wines	W5WIA	453-2193	w5wia@arrl.net
Secretary	Lee Cooper	W5LHC	260-7757	w5lhc@arrl.net
Editor, AARCOVER	Mitch London	KD5HCV	472-2843	kd5hcv@arrl.net
Technical (Repeater Contact)	Ed Golla	K3AHS	255-4818	edgolla@hotpop.com
ARRL Travis Co. Emer. Coord.	Lee Cooper	W5LHC	260-7757	w5lhc@arrl.net
ARRL Public Information Officer	Roger Wines	W5WIA	453-2193	w5wia@arrl.net

Austin Repeater Organization, PO BOX 4739, AUSTIN TX 78765-4739 Web site: <http://www.austinhams.org>

President	Jeff Schmidt	N5MNW	255-6753	n5mnw@arrl.net
Vice President	Rick Kirchhof	KD5ABM	454-4306	rick@kirchhof.com
Secretary	John Suchyta	KG5O	261-4931	kg5o@arrl.net
Treasurer	Roger Wines	W5WIA	453-2193	w5wia@arrl.net
Editor, AARCOVER	Mitch London	KD5HCV	472-2843	kd5hcv@arrl.net
Director	Mitch London	KD5HCV	472-2843	kd5hcv@arrl.net
Director	Nick Broline	W5FUA	929-4314	nick.broline@baesystems.com
Director	Lee Cooper	W5LHC	260-7757	w5lhc@arrl.net
Director	Stuart Rohre	K5KVH	255-2932	k5kvh@arrl.net
Director	Fred Neuenschwander	W5FQR	345-2145	Fred_Neuenschwander@amat.com
Transmitter Hunt Coord.	Mickey McInnis	WX5U	339-0344	mcinnis@austin.ibm.com
Technical (Repeater Contact)	Jon Dahm	WB5PCV	328-6662	jon.dahm@motorola.com

Please contact a club officer, attend a meeting, or mail us to join either or both organizations.

The Austin Amateur Radio Club, Inc. and The Austin Repeater Organization have combined membership dues of \$20.00/ calendar year (\$30.00 family to the same address)

The Austin Amateur Radio Club, Inc. AARC maintains a repeater with an open autopatch and emergency power on 146.78 MHz and an emergency HF/VHF station at the American Red Cross building. Persons residing or working within the coverage area are expected to join the club, if they use the autopatch. Non-residents on short visits are welcome to use this autopatch.

The Austin Repeater Organization ARO maintains the following repeaters: 146.88MHz (-600) with autopatch; 146.94 MHz (-600) used for Weather Net when called, and Travis County ARES. It is also used for Swapnet and Newline @ 9p.m. Sunday; 224.80 MHz (-1.600); 444.10 MHz (+5); & 145.01 <Hz packet NetROM node (KB5PM-1 or alias AUS). Persons residing or working within the coverage area are expected to join the club, if they use the autopatch. Non-residents on short visits are welcome to use this autopatch. **The 146.78 and 146.88 repeaters have open autopatches.** Please transmit your call **before** sing the phone patch. Press * and dial the phone number to place a call. Do not unkey after the *. When finished, press # to hang up the phone. Dial 911 (no * needed) for emergency services.

AARCOVER Information

ISSN 1067-0262, CODEN AAOVE3. ©Austin Amateur Radio Club, Inc. and/or the Austin Repeater Organization. Published monthly by the Austin Amateur Radio Club, Inc.

Viewpoints expressed in the AARCOVER do not necessarily reflect those of any club, or of its members, directors, or officers.

Material quoted from the ARRL Letter is supplied by the American Radio Relay League, Inc.

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 15th of the month.**

Material may be used in a later issue. Unless otherwise noted, permission is granted to reprint AARCOVER articles, provided you credit the author and the AARCOVER.

“NOUJR and His Friends” is reprinted with permission by Greg Trook, Trook Enterprises. Cartoons may not be reprinted without written permission. For information: <http://incolor.inebraska.com/n0ujr>.

Thanks to Smokey Wiley, K5RDJ, and his wife, Betty Wiley, KD5DTC, who mail the AARCOVER each month!

For Changes in your ADDRESS, PHONE NUMBER or CALL SIGN:

See Roger Wines, W5WIA (512) 453-2193 w5wia@arrl.net

Roger handles all changes for AARCOVER mailing labels & membership information & roster questions.

Fins, But No Fish

By Rick Herndon, K5FNI, Bastrop

After the Saturday morning Smithville ham breakfast, a bunch of us were gathered around the back of Charlie Claiborne's (N5JWP) station wagon this morning. He was showing us the very used AR-2 two-meter amplifier that he is proposing to use with our new repeater installation on a local Smithville Aqua water tower. We're still getting things together, as it is not complete, yet. He was showing us the way he's going to take off the case of the amp and join the copper chassis of the amp to the aluminum 19-inch rack panel, thence to the LARGE piece of finned heat-sink stock to carry out the heat that originates from the transistors in the final amp of the unit. Our whole installation will be in an outside, protected, but un-air-conditioned cabinet, so getting the heat away from the transistors will be a good thing.

While Charlie was discussing the external heat sinks, he mentioned one of his personal dislikes. I've shared that view, so I'll share it with the AACROVER audience: folks who vertically mount finned heat sink stock with the fins parallel with the ground. Simple physics, that covers things like "hot air rises" would lead one to notice that it would be much better to mount the sinks with the fins at right angles to the ground, to better dissipate the heat and allow the air to circulate it more easily away from the fins. (Our repeater amplifier will be well served with the heat sink fins in a vertical direction.)

(Continued from page 1) LBJ High School in Need

Technical

- **History of Radio* (if someone is interested in doing it. Maybe bring some older radios)
- **Basic electronics* (what is a resistor/capacitor/coils, etc. and how do they work in radios? How are they affected by AC/DC current?)
- **Basics of Tubes/Transistors* (How they work and how to amplify a signal, etc.)
- **Basics of Radio* (How Transmitters/Receivers work)
- **Antennas* (explain different types (yagi, dipole, vertical, etc.) and what are benefits of each, which one to use for AM/FM/HF/UFH, emphasis on obtaining gain through various types and more importantly how to match impedance of radio to antenna via baluns, tuners, etc. and how that process works. My wife adds that she wants to know why her car antenna is so short and yet can pick up AM and FM just fine....)

Projects

- *Help kids build Crystal radios and explain their operation
- *Building different types of antennas (specifically, maybe help kids build some G5RVs or J-poles that would later be put up and tested)

Equipment Needs

- *CW key(s)---(we don't have any and really need one for the Icom 751 and another for Icom 706)
- *Variable capacitors (I want kids to build a basic radio, but the old open-air variable capacitors are hard to come by. This is the one thing that I really need help with!)
- *Enameled wire for winding coils, etc.
- *Connectors (various types for hooking up coax, antennas, etc.)

This is just a rough list of ideas. I'm sure that some can be omitted and many others added. Let me know what you think.

Sincerely,
Ronny Risinger
LBJ High School

You Never Know What You Will Find

By Rick Herndon, K5FNI

I was looking around on QSL.net today and ran into a Japanese ham's (Kazuhiro Sunamura, JF1OZL) site at: <http://www.intio.or.jp/jf10zl> This fellow has world of projects for the amateur!

In order to read this site, you do NOT have to download the Japanese character set. Simply tell your browser NO, when it tries. You do have to kind of read between the lines, when he describes the circuits, because his English is not flawless. But, his English is much better than my Japanese!

A few example projects on the site are here.

Audio distortion meter with example audio amp: <http://www.intio.or.jp/jf10zl/hizumi.htm>

[I thought this project had lots of merit for experimentation, in that this is the first Wein-bridge oscillator I've seen described that used an LED for the optical part of the circuit! All the others have called for a small lamp that I could never find.]

Transistor curve tracer for \$10: <http://www.intio.or.jp/jf10zl/hizumi.htm>

This project is really nice in that he gives you a drawing of how he accomplished the circuit building with some simple printed circuit experimenter boards that you could build with a Dremel grinder or a hacksaw blade and some printed circuit board blanks.

<http://www.intio.or.jp/jf10zl/7MMW.htm>

[The circuit itself is not of special interest to most hams here, as it deals with an IF frequency not os use in the U.S.) There is more on his mechanical construction techniques at this link: <http://www.intio.or.jp/jf10zl/cmc.htm>

Here <http://www.intio.or.jp/jf10zl/style.htm> he describes home brew building styles, but also dips into some theories of life! To each his own.

There is much humor in these circuit descriptions. I'll leave the humor for you to find, as you read them. I'm sure there are gems like this site all over the Web.

73, Rick K5FNI

Factory Authorized Service

by Bill Eastman, KE5ASU

I've managed to find a factory authorized sales and service center for Yaesu, Kenwood, and Icom amateur radios + commercial two-way radio. It is KCOMM, located at 10815 Gulfdale, which is close to the San Antonio International Airport. They have a web page, which is <http://www.kcomm.biz>. I needed a new microphone for a radio that my brother in-law gave me. I called Austin Amateur Radio Supply and asked them if they had a microphone that would work with the radio, and they said no. While I was visiting my brother in-law, Jerry, KC5GIT he asked if I wanted to look around at the ham store. I said sure, so we went to KCOMM. They said they didn't have the specific microphone but they have a generic microphone that would work and they modified it to put the 4 pin plug on, wired for the Kenwood radio I have for no additional charge! When we (KC5GIT and I) got back to his house, we tried it and it worked. The phone number is (210) 344-3311. The hours are Monday - Friday 10:00 AM - 6:00 PM and Saturday 9:00 AM - 2:00 PM.

Also, the last Saturday of each month they have a swapfest in the parking lot, with free coffee and donuts provided.

Smokey's Korner

By Smokey Wiley, K5RDJ

For a while now I have been trying to get the club interested in buying a noise locator for loan to members in good standing so noise on the bands in their area can be located and corrected. Natural noise is hard enough to find because it might be coming from outer space. Manmade noise can be very difficult to locate because the noise can come from something completely unexpected. Noise can also originate in another county or another state or country.

I heard one time of a doorbell transformer causing terrible noise for six blocks from a Ham's station. It was finally located by cutting one circuit breaker after another until the correct breaker was found. It was a big home and about the last breaker that was tried. The work didn't stop there. Everything had to be unplugged one at a time until the noise source was located. Someone suggested ringing the doorbell to see if that was the culprit. When that was tried, the doorbell didn't work. The home owner was asked if it worked before we came and said it did. We knew by then, that the doorbell transformer was highly suspect. Everything was restored to normal and the owner showed us where he thought the transformer was. It was located under some fiberglass insulation in the attic and disconnected. That was the problem. Now if you have a hard nose homeowner who doesn't want to buy another transformer you may have to dig into your pocket to fix your noise.

Another case I heard about was a swamp cooler. You know the kind that drips water down through excelsior and works on the principle of evaporation. It had a squirrel cage blower and vibrated badly. The structure was rubbing against the siding of a mobile home and the minute arcing that was taking place was causing the noise.

It is my opinion with the transmitter hunting equipment we have today searching for a source of noise would be a snap since the other noise sources were found with an AM battery operated radio. We have "S" meters, attenuators, very sensitive radios, directional antennas, designer sweat bands and bottled water. So what can stop us? Hey! N2KTY Gary and my self will go out one day and really surprise ourselves. I hope. With a handy talky, an attenuator and a direction antenna I think we can do this.

73 Smokey and good hunting

The QCWA QSO

Keith Zimmermann, K5WX

Two great guys active at the National level of the Quarter Century Wireless Association became silent keys recently. Mr. Jim Walsh, W7LVN, became a Silent Key on 9/4/04. He had been the General Manager of the QCWA from 1991 to 2003. Jim was licensed as W7LVN in Eugene Oregon with a Class A License in 1946. His first rig used a pair of 807s and his first QSO was with W7LVM on 80 Meter Phone. Jim was a member of ARRL, QCWA, OOTC, AWA and AMSAT. Mr. Gerry Wentz, KC4EHT, became a Silent Key on 9/8/04. He was our current Editor of the QCWA Journal. They will be greatly missed.

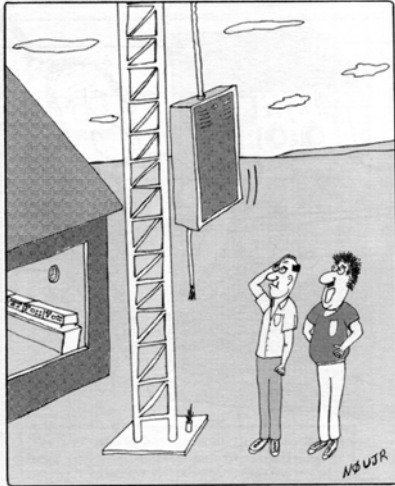


Please note that our October meeting will be at Ryan's Family Steakhouse Restaurant at Parmer and Metric. The date is October 16th at 11:30 AM. Please look for us in the small room near the front of the restaurant. Our October meeting will feature our President, Milt Cram, W8NUE.

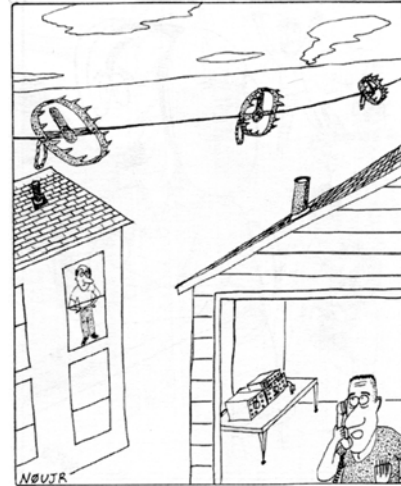
Always check the QCWA Chapter 67 web site at www.qcwa.net for meeting location and times. Remember, you don't have to be a member to attend. This is a great opportunity for folks to come together. There is also an Austin QCWA e-mail reflector at Yahoo Groups under AQCWA. Or, just call Keith, K5WX, at 258-7169 or e-mail to K5WX@QCWA.net if you have questions.

NØUJR and His Friends

By Greg Trook, NØUJR



Well Mr. Jenkins, when your rotor limit switch failed, and then your antenna coax got tangled, what you ended up with was a totally new meaning to the term “repeater hang time.”



“I put up a dipole, with traps, like you said, but it still won’t tune up right...”

us. Jack & Sharon are new to Texas. Ramiro is new to Austin. Scott joined us as a speaker for tonight’s presentation.

Monthly Drawing Winner: The winner of the monthly door prize drawing was Pete Dilan, K5PFD. Pete won a 7 function digital multimeter.

Minutes: The August 2004 ARO meeting minutes were approved as published in the AARCOVER.

Officer Reports: President John Suchyta, KG5O, gave a status of the ARO & AARC Re-unification progress. Now that AARC has 501.c.3 status, we are getting inventories of all club assets. The logistics to accept ARO assets is in process. Jeff Schmidt, N5MNV, gave a 2 minute history of ARO/AARC split and re-unification. ARO was split out in 1976. Jeff also discussed SwapNet longevity.

Rick Kirchof, KD5ABM, noted upcoming technical presentations.

Treasurer Roger Wines, W5WIA reports the balance is currently \$2358.95.

Technical committee chair Jeff Schmidt reported that the 146.78 repeater voice message was updated.

Big Project chair Joe Fisher, K5EJL, reported on activity in the schools, introducing ham radio to students as a class.

Old Business: None **New Business:** None

Announcements: John Suchyta thanked all for recent club activities, including the Decker power plant visit, Summerfest, and latest ARES SET.

Jeff Schmidt discussed the upcoming HamSlam course. Good work, Jeff! “Now You’re Talking” is now carried by Barnes & Noble. Meeting adjourned at 7:40pm.

Program:

The program was facilitated by Rick Kirchof, KD5ABM. Rick introduced local QRP’ers who presented their kit building efforts.

John Fisher, K5JHF, mentioned that his initial interest in building circuits from scratch was how to program a microcontroller. He discussed several of his inventions and demonstrated a cheap, simple, 3V CW keyer interface to a standard PC keyboard.

Stuart Rohre, K5KVH, demonstrated how he turned a TenTec model 1251 RF ground counterpoise tuner kit into an L network antenna tuner, also known as a transmatch. Stuart also showed off a NorCal 20m transceiver kit.

Scott McMullen, NJ0E, presented 3 projects that he built, including a homebrew code practice oscillator, a RockMite direct conversion 40m transceiver kit, and a Small Wonder Labs 40m transceiver kit.

Curt Goodson, W4QBU, presented a homebrew QRP wattmeter that he made from various parts, including the meter and a modified 2 pole, six position switch.

Gary Sehne, N2KTY, had about a dozen kit and homebrew projects. Just about all were packaged in Altoids tin packages, or smaller. These included a 49er transceiver kit, an HF frequency counter that outputs in Morse code, a frequency counter with LED display, a button cell AM radio, a frequency calibrator to provide markers for short wave receivers, a wideband preamp, a K5JHF code practice oscillator kit in a can, a balanced line tuner – modified for coax, a see-thru SMK1 (Surface Mount Kit) 40m transceiver, a homebrew white LED 9V flashlight, and a QRP dummy load.

Minutes taken by Thomas Visel, NX1N, and submitted by John Suchyta, KG5O.

ARO/AARC Meeting Info.

Austin Repeater Organization

October 5 - Rick Kirchhof, KD5ABM will discuss the basics and techniques used to operate an oscilloscope.

Austin Amateur Radio Club

October 12 – Bob Ripley, W5EMC will give an informative talk on Electro-Magnetic Compliance.

Upcoming Amateur Exams

ARRL VEC- October 9 & November 6
9a.m. at Murchison Middle School on North Hills Drive
Contact Joe Makeever, W5HS (345-0800) or Joe Thiel, N5SMN (832-0450) for information. \$12 examination fee.

W5YI VEC- October 16 & November 20
2p.m. in room 109, Fleck Hall, St. Edwards University. Contact Jim Greenwood, AB5EK@arrl.net, (327-6184)
<http://texasparadise.com/w5yi-austin> for more information. \$12 examination fee.

Missed an Issue???

Text (only) & .pdf version of the current issue can be found on the Web <http://www.austinhams.org>

Join the Austin hams Yahoo Discussion Group, go to <http://groups.yahoo.com/group/austinhams/>
We are now up to 35 members! It's free!

Calendar of Events

Oct 2 *Belton Ham Expo* - Mike LeFan, WA5EQQ
254-773-3590 hamexpo@tarc.org www.tarc.org

Oct 9 *Outlaw 100 Bike ride in Williamson Co.* Dallas
KD4HNX mylastname@yahoo.com

www.ci.round-rock.tx.us/parks-rec/outlaw_trail.html

Oct 14-16 *Microwave Update 2004* Dallas near the DFW airport hosted by North Texas Microwave Society
www.ntms.org and www.microwaveupdate.org

Nov 5 *Dinner Banquet/Casino Night Austin Radio RoundUp*
7-10PM Wozniak Hall Mood Music, Gamblin' Practice, Good Vittles and a Guest Speaker Friday Admission includes Saturday entry and raffle tickets

Nov 6 *Austin Radio RoundUp* AARC-ARO Hamfest 8AM-1PM St Louis Catholic Church 7601 Burnet Rd, Wozniak Hall
Grand Prize- TBD Jeff N5MNW@arrl.net or Lori KM5MQ@arrl.net 512-255-6753

Oct.	Nov.	Austin Meetings/Happenings	
5	2	ARO Meeting, Marimont Cafeteria	7:00p.m.
9	13	Austin QRP, Alvin's Sandwich Shop*	11:00 a.m.
12	9	AARC Meeting, ARL Auditorium	7:00 p.m.
19	16	ATV Club Meeting, Marimont	7:00 p.m.
16	20	QCWA Meeting Ryans Rest.	11:30a.m.
25	22	Travis Co. REACT Denny's on Burnet	7:00 p.m.
No	23	Travis County A.R.E.S., Marimont	7:00 p.m.

*New meeting location and time, Alvin's Sandwich Shop
12200 Research.

Visitors are welcome whether they are licensed hams or not. Other meetings or activities are listed under the headings for Calendar and for Periodic Events.

Non-Profit Organization
U.S. Postage Paid
Austin, TX
Permit No. 2942
Time Value Newsletter

AARCOVER
Austin Amateur Radio Club
Box 4739
Austin, TX 78765-4739
September 2004
Return Service Requested