



AARCOVER

Bulletin of Austin Amateur Radio Clubs

Austin Amateur Radio Club

Austin Amateur Television Club

Austin Repeater Organization

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August 2005

Issue 8-2005

BPL is Making Some Noise in State Legislature

Skip Cameron, W5GAI

On Sunday July 17 during the Texas House session, Rep. Will Hartnett offered the following amendment which passed. Will is the Rep. for Tom Blackwell N5GAR and has been receptive and helpful in our effort to amend the BPL provisions. Tom is to be congratulated for his persistent efforts in getting the only TX legislator to offer an amendment on the BPL issue. Hartnett told me just before the Sunday session that the more detailed amendments we had offered would not be able to muster a majority, and he was going to try a simple insertion to engage the PUC in the process. This at least gives us the opportunity to address the TX Public Utilities Commission on complaints, and also to see if they are willing to make rules that require BPL operators and their utility partners to prove non-interference before they will be permitted to install and operate. SB21 is still pending, and will not move forward in the TX legislature until the school finance bill passes. The special session ends Wed. midnight, and if no passage, the Governor will call another session.

I have learned that TX Department of Transportation statewide still uses six 47MHz frequencies for communications, in addition to 932MHz. When they have road closures, as in emergency situations, this 47MHz system is heavily used. I will see if I can enlist a letter from someone in authority at TX Dot in opposition to BPL, or at least in favor of putting permit requirements on applicants for demonstrated non-interference.

Skip W5GAI

TX House Journal July 17, 2005:

(Continued on page 2)

Periodic Events

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	146.64 MHz - (162.2)
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	146.94 MHz -
Wed	11:30 a.m.-1p.m.	Ham Social Luncheon, Jim's at 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	6:30 p.m.	Central Texas Traffic Net	147.14MHz+

Trying to figure out what coil and capacitor to use to make a tuned circuit? Try This.

Forwarded by:
Stuart Rohre, K5KVH

I have a coil that when paralleled with a 110 pf or uuf capacitor dips at 6945 kcs or kHz. There is a formula to calculate the coil's inductance and I remember it being something like 1 over some constant times the frequency squared times the capacitance.

There's an easier way:

LC = 25,330 divided by frequency squared (microhenries, picofarads, megacycles)

For example, 6945 Kc or KHz equals 6.945 Mc.

Frequency squared is 48.233.

25,330 / 48.233 = 525.16

So any LC combo that results in 525.16 will resonate at 6.945 Mc.

Since your C is known at 110,

525.16/110 = 4.775 microhenries

Besides being easier to remember, the LC formula lets you figure out any combination of L and C that will work.

(Continued from page 1) BPL Making Noise

Amendment No. 13

Representative Hartnett offered the following amendment to SB21:

Amend SB 21 as follows:

On page 10, line 7, between "Commission" and "representative" insert "or Public Utilities Commission"

Amendment No. 13 was adopted.

The section should now read:

Sec. 43.152. COMPLIANCE WITH FEDERAL LAW. BPL operators shall comply with all applicable federal laws, including those protecting licensed spectrum users from interference by BPL systems. The operator of a radio frequency device shall be required to cease operating the device upon notification by a Federal Communications Commission or Public Utilities Commission representative that the device is causing harmful interference. Operation shall not resume until the condition causing the harmful interference has been corrected.

Ham Radio Volunteer Exam Results

ARRL VEC – The following are the results of the ARRL VE test session held at the LCRA Harry Shapiro Building on July 9th, 2005:

Technician Class Licenses Processed

Jeffory C. Culp Michael D. Gaines
James S. Rankin

General Class Element 3 CSCE Processed

Kevin T. Thomas, KE5FBC

Examiners Participating in this Test Session

Tony Davee, KM5JH Howard Glueck, K5ZUA
Larry Gunter, WB5BEK Jerry Jackson, N5UJ
Joe Makeever, W5HS Kees Talen, K5BCQ
Joe Thiel, N5SMN

Next Two ARRL/VE Test Sessions

August 6th - Red Lion Hotel (Austin Summerfest)
September 10th - LCRA Harry Shapiro Bldg, Room S433
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 July 16th session:

Extra Class –

Ronny Risinger, KC5EES

General Class –

Joseph P. McGuffey, NH7WB

Technician Class (all new) –

Sebastian Muñoz Divya Thakur
Karla P. Vega

Our administering volunteer examiners were:

Hugh Brown, NT5O Jim Greenwood, AB5EK
John Fisher, K5JHF Tony Lyon, KJ5XF
Lloyd Goehring, Jr., N5TO Jimmy Mercer, N5WDH
Joe Thiel, N5SMN

Our next two sessions will start at 2 PM in room 109 of Fleck Hall on the campus of St. Edward's University on August 20th and September 17th. For additional information regarding our amateur radio examination sessions, please contact Jim, AB5EK at (512) 327-6184 or by e-mail to hamradioexams@hotmail.com or visit our web page at <http://texashams.org/w5yi-austin/>

Exam fee is \$14.00

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.

President	John Suchyta	KG5O	261-4931	kg5o@arrl.net
Vice President	Jeff Schmidt	N5MNV	255-6753	n5mnw@arrl.net
Treasurer	Jerry Jackson	N5UJ	832-5663	jerry@gaj.com
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ARRL Travis Co. Emer. Coord.	Don Dudley	AC5YK	301-8745	ac5yk@yahoo.com
ARRL Public Information Officer	Roger Wines	W5WIA	453-2193	w5wia@arrl.net

Please contact a club officer, attend a meeting, or mail us to join the organization.

The Austin Amateur Radio Club, Inc. has a membership dues of \$20.00/calendar year (\$30.00 family to the same address)
The Austin Amateur Radio Club, Inc. AARC maintains the following repeaters. 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. 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 <MHz 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

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

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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 15th of the month.**

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Thanks to Jerry Jackson, N5UJ, who mails the AARCOVER each month!

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

See Jerry Jackson, N5UJ (512) 832-5663 jerry@gaj.com

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

Over the WWWaves... A Collection of Various Websites sent in by members.

<http://www.qrpkits.com/buildertip03.html>

Cool Homebrew xtal socket – Rick Herndon, K5FNI

<http://www.floodsmart.gov/floodsmart/pages/index.jsp>.

Is your home at risk for a flood? Find Out here. – Don Dudley, AC5YK

<http://tinyurl.com/>

TinyURL allows you to send your friends very tiny URLs in emails and notes instead of HUGE, LONG ones that take up several lines and frequently get mishandled by email programs and users alike.

–Rick Herndon, K5FNI

AMATEUR RADIO: A VOICE IN THE STORM

Guest opinion submitted by Idaho Senator Mike Crapo



Communication has taken many forms: beacon fires alerting assassins to Agamemnon's return to Mycenae; a lone Athenian runner covering 150 miles in two days to request help from Sparta; Genghis Khan's invention of the "Pony Express;" Morse Code, the telegraph, telephone, radio, television; and now the Internet and increasing types of wireless communications. Perhaps most striking are the massive and complex changes that communication has undergone in the past century. It boggles the mind to consider that 100 years ago, radio experimentation was in its infancy, and now we have the ability to send digital information via electromagnetic waves across the world or into outer space.

Yet, as anyone knows who has had a cell call dropped or simply experienced radio interference while driving, the invisible waves that carry our vastly-increased communications load are not limitless. Years ago, the federal government deemed it appropriate to regulate usage of electromagnetic spectrum to ensure that those who use particular portions of spectrum have the right to do so free of interference. It is a scarce but renewable natural resource. Therefore, regulation is necessary in order to create "highest and best use" allocations for radio frequencies. The need for national regulation is further reinforced by the fact that spectrum is a national asset bound by international rules and regulations. It is impossible to "own" frequencies, but the federal government has determined that a system of allocation and auction will produce a climate in which the "highest and best use of spectrum domestically and internationally" can prosper in terms of innovation, efficiency, and rapid deployment. In an era of increasing demand for spectrum, there is a small but vital group of users whose allocations must be preserved.

One of the pioneers of modern communications was amateur radio. Amateur radio operators explored ionospheric propagation for world wide radio, developed early mobile gear for automobiles and aircraft, created the first civilian communications satellite, developed early linked repeaters, established wireless Local Area Networks (LAN), developed the use of frequencies well beyond high frequency bands, and created new antenna configurations. Today, amateur radio still serves a vital purpose, especially in our post-9/11 world. Acting as volunteers, amateur radio operators provide assistance in numerous disaster relief efforts from the terror attacks in New York and Washington, to floods in Texas, hurricanes in Florida, earthquakes in Seattle and California, and fires in the West, and in my home state of Idaho. Amateur radio operators assist in search and rescue efforts and even place calls to Santa Claus on behalf of terminally-ill children! Many of the 650,000 operators in the United States take part in emergency preparedness exercises.

In the era of modern communications, we tend to forget that cell phone usage is dependent upon the viability of communications towers. Any smart military invasion strategy includes eliminating communications, and cell towers are primary targets. When the World Trade Center collapsed along with the cell tower atop the building, mobile phones were rendered useless in the area. Amateur radio operators stepped in and, from as far away as California, provided communication lifelines for rescue workers and aid agencies. A number of amateur radio operators' organizations have Memorandums of Understanding with the National Weather Service, FEMA, National Communications System, the Associated Public Safety Communications Officers, Inc., and the American National Red Cross.

Since 1982, this vital and reliable communication information source has lost 107 MHz (the equivalent of 18 television channels, and 145 MHz is in danger of being re-allocated). The 1997 Balanced Budget Act authorized spectrum auctions, but amateur radio operators cannot participate in such auctions. In light of increasing numbers of new technologies requiring spectrum bandwidth and the ensuing competition by sources with larger financial resources, bandwidth allocations must be preserved.

The Amateur Radio Spectrum Protection Act will ensure the success of this vital link in our security communications infrastructure while continuing to encourage the innovation and creativity that is the historical hallmark of this field. The Act requires replacement of any amateur radio spectrum that is reallocated by the Federal Communications Commission or National Telecommunications and Information Administration. It maintains spectrum allocation flexibility by only requiring that the basic amount of spectrum allocated to amateur radio operators be maintained.

Together with my colleagues Senators Akaka, Bond, Baucus and Burns, I look forward to working toward this bipartisan solution to the problem of lost spectrum for amateur radio operators.

-First Published in *The Hill* on July 13, 2005

S 1236 has been referred to the US Senate Commerce, Science and Transportation Committee of which Burns is a member. HR 691 has been referred to the US House Committee on Energy and Commerce.

Club Minutes

AARC Meeting, July 5th, 2005

The meeting was called to order at 7:15 pm by President John Suchyta, KG5O, at the ARL labs 10100 N. Burnet Road, Austin Texas

Visitors: Carla (N5KUR) and Greg (WD0ACD) Jurens, Zachary Steindler (KD8AAG) of Grand Rapids Michigan, Chris Crane (K5CLC) were visitors to club meeting tonight.

Monthly Drawing Winner: Our visitor from Michigan, Zach Steindler, KD8AAG won the monthly door prize and won an ARRL FM Repeater book.

Minutes: The June 2005 meeting minutes were approved as published in the AARCOVER.

Officer Reports:

President: John Suchyta, KG5O, thanked all for participating in Field Day and reported the following statistics:

For Field Day we had:

82 sign ins with 32 visitors

It was 98 degrees with 0.000 precipitation

All stations were fully staffed (2A, VHF plus GOTA)

Plenty of drinks and food

We had 2 News Stations (KXAN and KVUE) visit the site.

Vice President: Jeff Schmidt, N5NMW, reported that the July and August meetings would be a Spectrum Analyzer demo from N5BB, A presentation by a Woodcarver and a Soldering class/demo. See Swapnet newsletter at www.austinhams.org for details.

Treasury Report: No report this month although Jerry needs any receipts for FD purchases now.

Secretary Report: Lee reported that Lori Schmidt, KM5MQ was heard by Allen Pitts of ARRL HQ during the take your HT to Work day event and as a result won a Repeater Directory. Allen will be in town for Summerfest and will be hosting a Public Information Officer /Media presentation.

Ham of the Month: David Rivenburg

Last year when torrential rains and an unexpected hospital trip sidelined the original demo mode for Field Day, this amateur stepped up and did a demo to get our bonus points in 2004.

Again this year, this ham was ready and did a demo mode of APRS, and assisted with the logging computers project. He is quiet and you may not hear him on the air at Field Day all that much, but he is always ready to help out with set up/ take down, and getting the details right.

For his skills and dedication to the club projects, I nominate Dave Rivenburg as ham of the month.

-Stuart, K5KVH

Committee Reports:

Events Committee: Summerfest is coming up the first weekend in August. We are going to try and do a Saturday evening Boat trip in August. A date will be selected and details posted as soon as available.

Programs Committee: Jeff Schmidt, N5NMW announced that the Highland Lakes Swap fest will be on September 10th in Marble Falls

Finance Committee: No report

Technical Committee: There was a report of strong noise source experienced on a stretch of road between Merriltown Road and FM 1325 to the county line. It has been reported to both Austin Energy and to Texas Power and Light as there are jurisdictional concerns involved. David reports that the ID'er on the 146.94 is worbling again.

The Austinhams.org website was also reported as being down.

Big Project Committee: Roger explained the Big Project to our new members and visitors then discussed meetings he has been having with AISD. They want to put Ham Radio stations in ALL AISD schools including Del Valle and apparently have the budget for it. If this happens AARC will **need your help** to be mentors, advisors and other areas to make this happen. LBJ High School is leading the way. Please check out Page 12 of the July QST.

Membership Committee: No report

Editor: No Report

Old Business: None

New Business: None

Announcements: Joe McKeever, W5HS talked about the upcoming ARRL Texas State Convention, known locally as Summerfest on August 5th and 6th. He expects to have the South Texas Section Manager, Division Director and Assistant Directors along with Allen Pitts, W1AGP the ARRL Public Relations and Media Director attending. Monty Northrup will have an extended QRP session along with the QRP dinner on Saturday Night. There will be a dinner with Allen Pitts on Friday night. \$8 early registration, \$10 at the door. We will have a WX session on Saturday afternoon and a special BPL session after that. The Texas VHF-FM society will be holding their meeting and will be voting for new directors. Dallas Mellichamp, KD4HNX, is organizing the talk in and needs TC ARES members help for this.

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The ARRL VE Exams will no longer be held at Murchison School since they are now charging for use of their rooms. The LCRA stepped up to the plate and offered use of their sites. See www.austinhams.org for details.

TX-VHF FM society – several members talked about the upcoming elections and some of the issues involved. They are recommending a slate of candidates for office and asked that those who are members attend and vote the complete slate to ensure the Austin voice is heard.

Volunteer Opportunities:

- Boat trip? – summer!
- Summerfest, August 5 & 6
- JOTA, October 15 -16
- Radio Roundup, November 4,5
- Christmas Party, December 13?
- Various volunteer opportunities & ARES

Adjourned at: The meeting was adjourned at 8:00pm.

Program: Jeff Schmidt, N5MNV did an informal Field Day debrief and showed photos taken from the Shakedown on the 11th of June and from Field Day.

Respectfully Submitted,
Lee H. Cooper, W5LHC

"QPQ" and the QRP Monobander

by Monty Northrup, N5ESE

When I go to a restaurant, I tend to evaluate them based on what I call the "Quality/Price Quotient", or "QPQ". If the food and service is very good (Quality high), and the price is very low, then that eatery obviously gets a very high QPQ (and that's good!). If another establishment has equally good food and service, but they're very pricey, the QPQ is not quite so high. It's easy to see that either very high quality or very low prices can contribute to choosing a restaurant and still having a satisfying experience. Likewise, it's not hard to imagine that one would choose *not* to dine at a place with very low quality, or very high prices. I'm taking a bit of a leap here, but I'd venture to say most QRP'ers (low power enthusiasts) think about restaurants and radio equipment in terms of QPQ, whether or not we consciously consider the ratio in numeric terms.

So, enter the QRP Monobander. Now, in case you're thinking a "monobander" is an operator who only works 20 Meters, let me set you straight. The QRP monobander is a transceiver, usually a kit - sometimes homebrew - that can be built for a single band. At first glance, compared to a multi-band commercial rig, the monobander often lacks features you might have come to expect. For example, it may not have a full-coverage VFO, it may be single-mode (CW or SSB), it may not have passband-tuning, and it may not have a bunch of buttons and displays on the front panel. On the other hand, it has some qualitative attributes that can really be appreciated over the typical multi-band rig: operational simplicity, smaller form factor, and the challenge (and satisfaction) of building something with your own two little paddy-paws. Granted, Quality is a very personal thing, dependent in large measure upon personal goals, standards, preferences, and that insidious, ever-changing phenomenon of the mind - perception.

Price is a little easier to nail down. For ham equipment, we tend to think of price in a comparative way, rather than numerical, although at some point it comes down to "show me the money". By "comparative", I mean that we think of equipment as being "priced or not" by comparing it to rigs with similar features, or else dividing it into nebulous classes - low / medium / high. The boundaries between classification of prices tends to be very personal - what I think of as a medium price rig may not be the same as what you think.

Still, when it comes to considering a QRP rig, it behooves us to think in terms of "QPQ". And by my reckoning, the QRP monobander exemplifies some of the highest QPQ in ham radio.

Let's offer an example that illustrates a QRP monobander with high QPQ, the Wilderness Radio SST. The design of this rig, which first became available in 1997, evolved from the now legendary (and still available) NorCal 40. Both were designed by Wayne Burdick, N6KR (and co-founder of Elecraft Radio - ever hear of 'em?). A visit to the web sit at Wilderness Radio reveals that this \$90 kit is available for 40, 30, and 20 Meters (you pick). It has one of the smallest form factors of all the available monobanders, at just 3" x 3.5" x 1.5". With that small size, and the lightweight aluminum case, it's definitely considered "trail-friendly". Its design is elegantly simple, but amazingly ergonomic, with a headset jack and just two knobs on the front panel: Tuning, and AF Gain. Tuning coverage is between 10 and 20 KHz, depending on the band specified, and uses a crystal-based VXO circuit as the local oscillator. This range may seem somewhat restrictive, but it's just enough to ensure you can almost always find a clear space on an active band. Tuning is

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smooth and rock-solid. Power consumption is miserly, at a mere 15 mA on receive. In fact, the rig can be run on an internal 9-Volt lithium battery, an external 12-Volt battery, or your car's cigarette lighter. Transmitter output is only 2 watts, but trust me, that's plenty, being only a fraction of an S-unit below the QRP "full-gallon" (5 Watts). Batteries seem to last forever, even while the log is filling up with contacts. Ah, you're thinking, the receiver must be a DAWG! But nay, this receiver uses single-conversion superhet circuitry with a 3-crystal ladder filter in the IF, providing good single-signal reception. It even has AGC (boy, can that save your ears!). In short, this receiver is HOT! So hot, in fact, that an RF Gain control is provided on the rear panel, to accommodate times when the band is packed with booming signals (like contests). For the discerning CW op, the rig features clean, fast QSK, and good sidetone. Quality Price Quotient? It's hard to rate this monobander as anything except "way up there".

Now a plug... during the upcoming Austin Summerfest, the Austin QRP Club presents one of the premier electronic designers, and the co-designer of the soon-to-be-released NC-2030. This rig is a QRP monobander optimized for low power consumption but with receiver performance that meets or exceeds even the most expensive commercial rigs. Now, that's saying something! Mark your calendar for August 6, and be sure to attend the QRP Forum to meet our esteemed presenter, Dan Tayloe, N7VE, and to find out all about this exciting new monobander.

There are many other QRP monobanders, and I've listed URLs to a number of them in the addendum to the article.*** Think about QPQ when you consider that next QRP monobander kit, and let's all *melt some solder!*

73, Monty, N5ESE

Editors Note

The list was too long to print, please refer to the online version of the AACOVER for a complete listing, Thank You.
<http://www.austinhams.org/aarcover.html>

Interested in Public Relations? Like talking about Ham Radio?

Come to the Summerfest Texas State ARRL Convention and Swapmeet And hear ARRL Media and Public Relations manager, Allen G. Pitts W1AGP speak. Come meet Allen and discuss issues surrounding Media relations.

The PIO presentation will be in the Butch Cassidy Room at Summerfest from 10:00 am - 11:00 am on Saturday August 6th

From Mobile Radio Technology magazine email:

Antenna Products division lands \$1.73 million contract

Jul 14, 2005 6:54 PM

Phazar Antenna Corp., a division of Mineral Wells, Texas-based Antenna Products Corp., received a \$1.73 million contract from military communications system developer BAE Systems for the installation of low band and high band antenna matching unit assemblies in Alaska. Phazar expects to complete the installation by Nov. 1, 2005, the company said. The equipment will be installed at the High Frequency Active Auroral Research Program (HAARP) ionospheric research site near Gokona, Alaska, where Antenna Products built and installed 132 crossed dipole antennas in 2004.

Big News!

Austin Summerfest is here, check out www.austinsummerfest.org

The Austin Radio Roundup location and date has been set! VFW Post 8787- North of Braker on IH35 North access Road on November 4th and 5th. Watch the AACOVER and Austinhams website for the latest information!

AARC Meeting Info.

Business Meeting**New Location!**

7:00 pm at ARL Labs

10000 Burnet Rd. (North of 183)

Aug 2 - (bring a drink and a few \$ for Pizza)

Jim WA5CHF-Woodcarving artwork and Austin Woodcarving Club. Everyone is welcome-bring your spouse/non-ham friends to see awesome artwork!

7:00pm at ARL Labs

10000 Burnet Rd. (North of 183)

Aug 9 "Hands-On-Hamming" (bring a drink and a few \$ for Pizza) "Soldering Night". We will provide light to medium soldering utensils for you to bring your soldering project (coax, power wires, antennas, etc)

Upcoming Amateur Exams

ARRL VEC-August 6th & September 10th*New Location*9a.m. at LCRA Complex (See Page 2) 3700 Lake Austin Blvd. Contact Joe Makeever, W5HS (345-0800) or Joe Thiel, N5SMN (832-0450) for information. \$14 exam fee.

W5YI VEC- August 20th * September 17th
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 info.

Calendar of Events

Sep 10 HLARC's annual swap meet at the Pavilion in Marble Falls Rik 512-845-1199 K5RIK@arrl.net Chuck KB5YKJ@281.com 830-693-0513 www.hlarc.org

Oct 1 Belton Ham Expo - Mike LeFan, WA5EQQ 254-773-3590 hamexpo@tarc.org Register on the website! www.tarc.org

Oct 22 Brenham Swapmeet 7AM-2PM- Washington Co. Fairgrounds w5aum@yahoo.com or ka5bkg@arrl.net www.alpha1.net/~barc

Nov 4-5 Austin Radio Roundup VFW Post 8787- N. Of Braker on IH35 N access rd. Friday night vendor setup and dinner, Sat setup 7AM, open to public 8AM-noon Door admission- \$1, Talk-in 146.94(-)

Nov 12 Tri-County ARC & City of Azle DPS Swapfest
605 SE Parkway David KB5YLG@yahoo.com
817-444-5165 www.wc5c.org

Aug	Sept.	Austin Meetings/Happenings	
2	6	AARC Meeting ARL Auditorium	7:00p.m.
13	10	Austin QRP, Alvin's Sandwich Shop	11:00 a.m.
9	13	Hands on Hamming ARL Auditorium	7:00 p.m.
16	20	ATV ClubMtg. Chez Zee on Balcones*	7:00 p.m.
20	17	QCWA Denny's on Burnet Rd.	2:00p.m.
22	26	Travis Co. REACT Denny's on Burnet	7:00 p.m.
No	27	Travis County A.R.E.S., ARL Aud.	7:00 p.m.

*ATV Club now meets at Chez Zee, 5406 Balcones Dr. 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.

2005
Austin, TX 78745
6601 Lewood Drive
Mitchell London, KD5HOV

Non-Profit Organization
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