



# AARC COVER

## Bulletin of Austin Amateur Radio Clubs

ISSN 1067-0262

March 2008

New Meeting Location, See Page 7

Issue 3-2008

### AARC needs your help for our biggest fundraiser of the year- The Capitol 10K Packet Stuffing Party.

Jann Girard (Race Director for the Capitol 10K) reports 15,000 packets will need stuffing in 2008. She also says around 20 folks from Austin American Statesman will be there to help coordinate. When complete, AARC will collect \$2000 again this year!



Organizations that use AARC/ARO/TCARES Repeaters are invited to help! This includes 147.36, 146.94, 146.88, 146.88, 444.1 machines. You're encouraged to wear any uniform/jersey and show your support.

Jann, Lee, Don, Lori and I promise to make it as fun an event as possible. There will be more finger cots and the Genie Muscle massager will again be available! We are at the ~27 volunteer mark and will need to be at least 50 strong all day (the more the better) to spread the load out.

AM-only, PM-only and All-day shifts are scheduled but show-up-when-you-can efforts are welcome, too! Please respond and advise your availability. My home email is- N5MNW@ARRL.NET or call 255-6753.

Family members are welcome (we had some well-behaved and hard-working youngsters in the past) so please invite spouses, etc. to come help for at least part of the day. Please be aware that younger children who require lots of attention may detract from our efficiency.

Coffee, drinks (with REAL sugar) and snacks will be available throughout the day. AARC will spring for lunch around 12noon. We will provide pizza and soft drinks for lunch during the 12-1PM slot. AM shift- 8AM-12noon (please arrive at 7:30AM) Lunch- 12noon-1PM PM shift- 1PM-5PM or until finished So, restated, the Capitol 10K Packet Stuffing Party will be a one-day event to raise \$2000 for the AARC. Saturday Mar 8, 7:30AM to ~5PM at the Austin American Statesman main building, just NE of Congress & Riverside. Thanks to you all for helping AARC reach this goal!

### 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 -
Tues.	7:30 p.m.	Hays ARES net	444.150 + (114.8)
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	11:30 a.m.	Lunch, Waterloo Ice House	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+

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## Ham Radio Exams Results

The following are the results of the ARRL VE Test Session held on February 2nd, 2008 in the Hancock Building of the LCRA General Office Complex:

**Technician Class Licenses Processed** Margaret M. Dixon, KE5SSF Allan R. Tiemann, KE5SSG

**General Class License Processed** John S. Williams, KE5SSH

**Extra Class License Processed** William A. Henderson IV, AE5GD

### Examiners Participating in this Test Session

Milt Cram, W8NUE

Curt Goodson, W4QBU

Larry Gunter, WB5BEK

Joe Makeever, W5HS

Tom Nevue, W2MN

Joe Thiel, N5SMN

Next Two ARRL VE Test Sessions

**March 1st - THE QUARRIES - CLC Building (See Location Info Below)**

**April 5th - THE QUARRIES - CLC Building**

TNX ES 73 DE W5HS

Joe

### \*\*\*AUSTIN ARRL/VEC FCC EXAMINATIONS MOVE TO NEW LOCATION\*\*\*

Due to circumstances beyond our control, we are moving the testing location for the ARRL/VEC tests performed on behalf of the Austin Amateur Radio Club from its LCRA General Office Complex location on Lake Austin Boulevard to The Quarries sports complex at 11400 N. MoPac Expressway.

Testing at this location will commence at 9:00 AM on the following Saturdays:

March 1<sup>st</sup> - April 5<sup>th</sup> - May 3<sup>rd</sup> - June 7<sup>th</sup> - July 5<sup>th</sup>

Testing for August will be on August 2<sup>nd</sup> at the Wyndham Garden Hotel during **Austin Summerfest**. It will start at 12:30 PM in a room across the hallway from the convention registration desk.

From the intersection of West Braker Lane and the northbound MoPac access road (yes, that's the access road on the east side of MoPac heading north toward Round Rock) stay in the center lane of the access road and follow it along underneath MoPac. Take the first right turn off of the access road as you go underneath MoPac. There is a sign next to the entrance gate that is marked **THE QUARRIES** but it doesn't show up well due to its drab colors. The access road to the sports center parallels the Missouri-Pacific railroad tracks. You will pass over three 25 MPH speed bumps and eventually come around to a lake (the old quarry pit) and a two-story building. Take the driveway around to the front side of the building and park in this parking lot. Come in through the front door and you will find directions to the room where the testing will take place.

Go to <http://www.hpbc.org/cms/index.php?section=149> for detailed directions on how to approach this complex from out of town.

## 2-16-2008

The South Austin W5YI VE team heartily congratulates all of the following people who earned new or up-graded amateur radio licenses at our February 16<sup>th</sup> session:

**Extra Class** – Ross A. Russell –new-

**General Class** – Jack T. Ward, Jr., N5TLW

**Technician Class (all new)** – Gethan E. Rodgers, Jr. –new- Terry L. Smith –new-

Our administering volunteer examiners were:

Robert O. Blackburn, KC5IAJ

Jim Greenwood, AB5EK

Lloyd Goehring, Jr., N5TO

Jimmy Mercer, N5WDH

Our next two amateur radio exam sessions will start at 2 PM on March 15<sup>th</sup> and April 19<sup>th</sup> in room 106 of Fleck Hall on the campus of St. Edward's University. 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/>**

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

President	Don Dudley	AC5YK	340-0778	ac5yk@yahoo.com
Vice President	Lee Cooper	W5LHC	424 5491	w5lhc@arrl.net
Treasurer	Jay Hoffman	KA5OST	388-4404	ka5ost@arrl.net
Secretary	Alan Russell	KE5DTR	851-1806	arusell@cra.org
Editor, AARCOVER	Mitch London	KD5HCV	326-3096	kd5hcv@arrl.net
Technical (Repeater Contact)	Stuart Rohre	K5KVH	255-3932	k5kvh@arrl.net
ARRL Travis Co. Emer. Coord.	Roger Wines	W5WIA	453-2193	w5wia@arrl.net
ARRL Public Information Officer	Lee Cooper	W5LHC	424 5491	w5lhc@arrl.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	Yes	General
146.880	Yes	General
146.940	No	Most popular, WX, Swapnet & Newslite
224.800	No	
444.100	No	
146.480/+1.0	No	2m D-Star Repeater (Cedar Park Area)

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.

#### **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 20th of the month.**

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

**See Jay Hoffman, KA5OST (512) 388-4404 ka5ost@arrl.net**

**Jay handles all changes for membership information .**

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## **Over the WWWaves...**

### **A Collection of Various Websites sent in by Rick Herndon, K5FNI**

The soldering tools and technique shown on this page for Surface Mounted Devices (SMD):

**[http://www.zianet.com/erg/SMT\\_Soldering.html](http://www.zianet.com/erg/SMT_Soldering.html)**

**<http://www.embedded.com/columns/breakpoint/160902529>**

The reviewer in this article looks at three budget scopes that use the power of your computer through the USB connection to view and provide some analysis of the signals. In addition to looking at fairly low frequency signals for the advanced user, these units may provide a good springboard for low-cost instrumentation acquisition for the beginner or those still in the education system who are limited in funds.

**[http://radar.oreilly.com/archives/2008/02/wired\\_news\\_from.html](http://radar.oreilly.com/archives/2008/02/wired_news_from.html)**

Here's a piece on Teletype/AP history with a comment by a ham.

## NVIS INTRODUCTION AND FREQUENCY SELECTION

**Near-Vertical Incident Skywave (NVIS)** propagation is a mode of HF operation that utilizes a high angle reflection off the ionosphere to fill in the gap between line-of-sight ground wave and long-distance “skip” sky wave communications. This mode of operation requires careful frequency selection, special antennas and in some cases, significant operator skill. We are all operating NVIS when we check into a state ARES or state traffic net and can communicate with all stations (for example, the Texas traffic net on 7.280 MHz a couple of years ago). This same frequency, 7.280 MHz, does not presently perform well and does not function at all for evening and early morning nets because a certain controlling parameter of NVIS propagation is presently different.

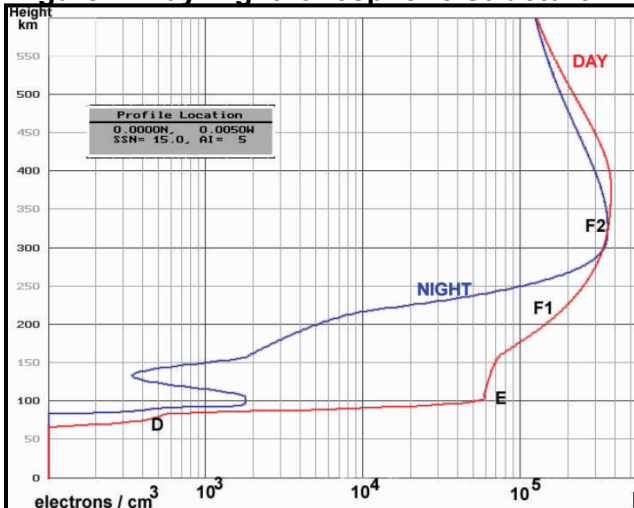
German Panzer forces utilized NVIS propagation during WWII to maintain tactical communications at ranges out to 400 miles. The figure below shows a Panzer command vehicle with an NVIS loop antenna (looks like a canvas cover support frame).

NVIS was more fully documented and used by US forces in Vietnam. A properly generated NVIS signal has a limited ground wave signal and the vertically propagating signal is very difficult for an enemy operator to home in on.



NVIS propagation is considered to be F-layer ionospheric reflection at angles from 50° to 90°. The height of the F-layer of the ionosphere varies as can be seen at: <http://solar.uleth.ca/www/hmf2.html> A typical plot of the ionosphere for both day and night is shown in Figure 1. The 300km or 186.4 mile height of the F2 layer allows NVIS propagation coverage out to a range of some 444 miles in all directions with an incident angle of 50°.

**Figure 1: Day/Night Ionospheric Structure**

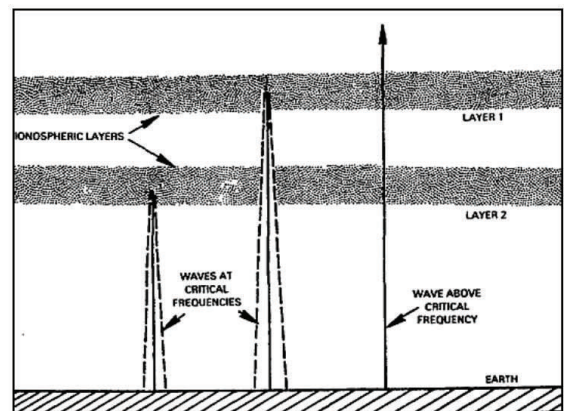


NVIS operation is optimized by understanding and controlling two factors: (1) proper selection of the operating frequency, and (2) Proper antenna design and placement.

### Frequency Selection

Optimum NVIS propagation is achieved by operating at or slightly below the local Critical Frequency (CF). The CF is defined as the highest frequency signal that will reflect directly back to its transmission location as shown in Figure 2. Typically the signal will be reflected from the higher F-layer if the operating frequency is near the fof2 CF. The CF is dependent on the intensity of the ultra-violet (UV) radiation from Sun and so varies with the time of day and day of the Sun-Spot cycle. Increased UV radiation will increase the CF of the F-layer. The CF is measured by ionosondes lo-

cated all over the world. An ionosonde measures the structure of the ionosphere directly overhead by transmitting a varying series of frequency pulses and then analyzing the echoes. Data from this world-wide series of ionosonde can be found at: [http://www.swpc.noaa.gov/ftpdir/lists/iono\\_day/](http://www.swpc.noaa.gov/ftpdir/lists/iono_day/) We are fortunate to have an ionosonde centrally located in Texas at Dyess AFB near Abilene. Clicking on *Dyess iono.txt* will bring up the last 24 hours of 15 minute data. The first four columns are the date/time group of the measurement and the fifth column, fof2, is the Critical Frequency. I will discuss the other columns in a later article.



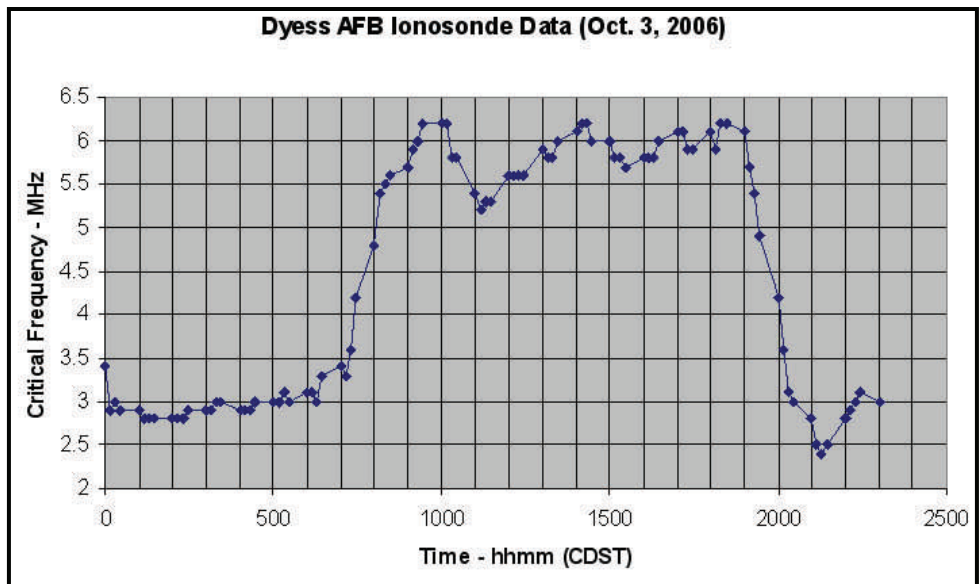
**Figure 2**  
**Critical Frequency Definition**

Figure 3 shows a 24 hours plot of the CF for Oct. 3, 2006 during our current low Sun-Spot period. When the 1 hour, day-light saving time bias is removed, you can see the reason for the poor NVIS performance of the Texas ARES net (7:30 PM, 3.873 MHz). Depending on the amount of UV ionization, and the exact time of the year, the rapid fall of the CF can perfectly coincide with this net time. The extra deep drop to 2.5 MHz has been occurring in the middle of this net, preventing all but 160m being an effective NVIS frequency. From Figure 3 the following frequencies would be best for our nets:

*Texas ARES(7:30 PM) – 75m, but expect periodic net failures*  
*Day-time traffic nets – 60m*  
*Texas RACES Net ( 2 PM) – 60m*

As the days lengthen and we move back to CDST, we will recover the functionality of the Texas ARES net.

**Figure 3 - CF Plot, Low Sun-Spot Cycle Period (CDST)**

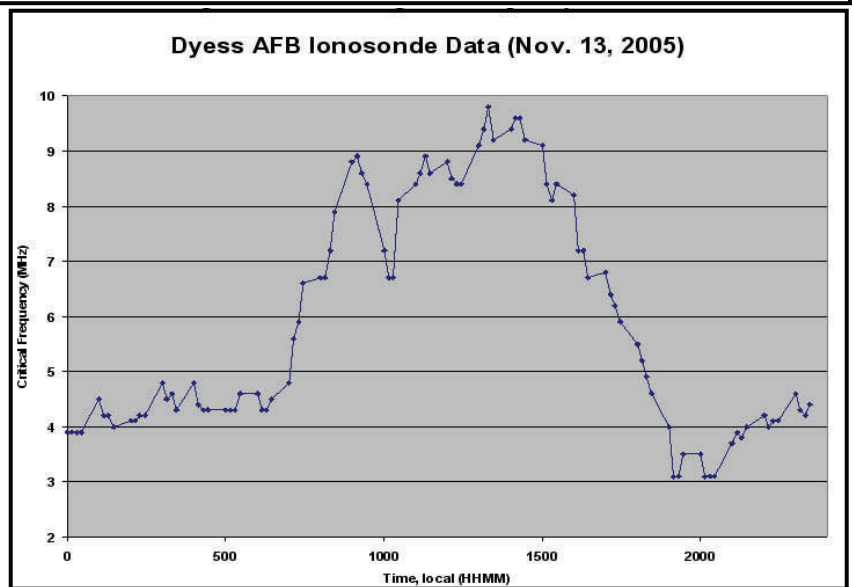


**Figure 4: CF Plot, Higher Sun-Spot Cycle Period**

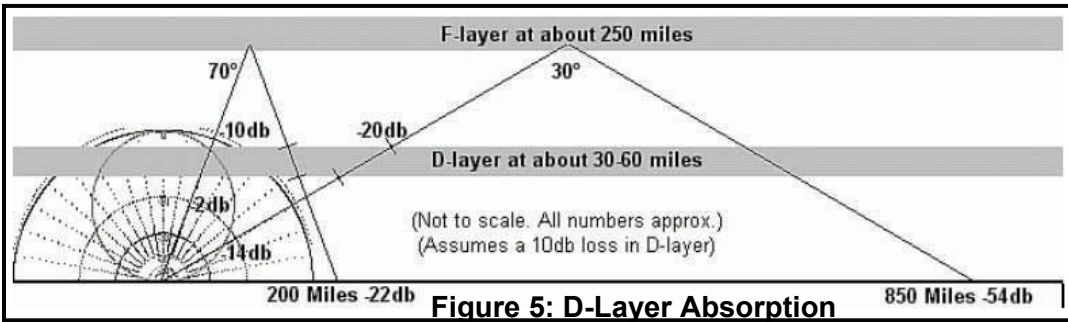
In contrast, Figure 4 shows the CF about 1 year before Figure 3, when the ionosphere was more highly ionized by increased UV radiation from the Sun.

Note that for this CF behavior, the following frequencies would be optimum for our net operations:

*Texas ARES Net (7:30 PM) – 75m*  
*Day-time Traffic Nets – 40m*  
*Texas RACES Net (2 PM) – 40m*



Another solar phenomenon, D-Layer absorption, limits our low frequency operation during the day-light hours. Most all the UV radiation from the Sun is absorbed by the F-layer, producing the ionization we need for NVIS skip communications. The X-rays from the Sun penetrate through the F and E-Layers and are absorbed by the D-layer. The ionization of the D-layer produces increased absorption of radio signals as they pass through on the way to and from reflections off the F-layer. D-layer absorption is inversely proportional to frequency, so operating at the highest useable frequency will minimize this loss. Figure 5 shows why longer distance stations will fade during the day. The lower slant angle path will travel a longer distance in the absorptive D-layer than a high angle wave thus experiencing greater attenuation. In the mid-morning hours on 75m nets you may notice that some of the more distant net members begin to lose signal strength. This fading will grow worse as the sun rises unless the net is moved up in frequency. Present daytime nets should begin in the early morning hours on 75m, move to 60m in the mid-morning and then to 40m if the CF rises about 7 MHz. Presently, regional nets need to remain on 60m to maintain good NVIS performance. Note that unlike the CF phenomenon, D-Layer absorption can be partially compensated for by increasing transmit power or using modes that need less signal to noise ratio than SSB. Modes like CW or certain digital modes (PSK-31, Olivia, MT-63 and PACTOR) can be effective when SSB has faded. Fortunately, as night falls, the D-layer quickly dissipates (ions recombine), significantly increasing skip distances. The difference



**Figure 5: D-Layer Absorption**

in re-combination rates between the D and F-layers at dusk is what produces Gray-Line enhanced propagation. For NVIS propagation users, we simply want to operate at the highest possible CF so as to minimize D-Layer

absorption. In this low Sun-Spot cycle period, we simply do not have much “wobble” room and may have to accept limited NVIS ranges during the maximum Sun period of the day.

The more general ionospheric skip phenomena is shown in Figure 6. The Skip Zone is eliminated, as discussed above, by operating at or below the local CF of the ionosphere. If our operating frequency is above the local CF then for some higher incident angles, our signal will simply go straight through the ionosphere, never to return. The simple equation for this relationship is

$$MUF = CF \cos \Theta$$

where

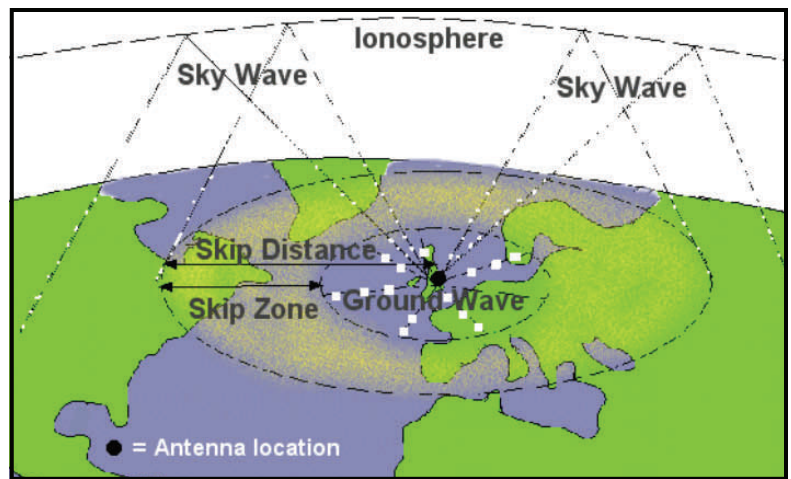
MUF – Maximum Useable Frequency (between two locations)

CF – Critical Frequency

$\Theta$  - Angle of the incident ray with a vertical line at the incident point.

Note that if you know the CF and your operating frequency (above the CF), you can compute the skip zone dimension given the height (hmf2) of the ionosphere. For example when the CF is 5.4 MHz and the State Operations Center (SOC) is attempting to operate on the Texas RACES Net at a frequency of 7.248 MHz, the skip zone has a radius of 242 miles in every direction from Austin. This incorrectly selected operating frequency will prevent HF communications with a large part of the Texas coast, exactly who the SOC RACES station should be in communications with during hurricanes! Moving down to 60m (5.3 to 5.4 MHz) would allow optimum NVIS communications with the coast.

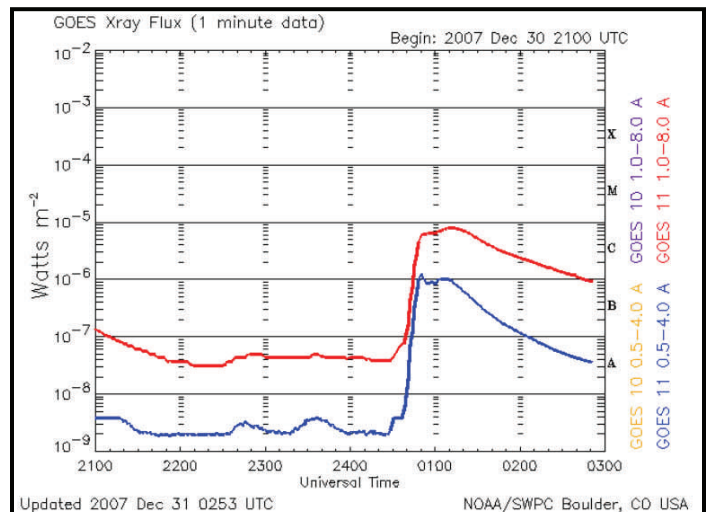
Another example is when the band “goes-long”. When the sun sets, because D-absorption and the CF both drop, only longer distance stations are received.



**Figure 6: Ionospheric Skip Propagation**

Other solar and geomagnetic conditions can upset the density and ionization in the ionosphere, affecting NVIS propagation. These conditions include solar flares, corona mass ejections and corona holes. I will cover these subjects in a later article.

I will end this discussion with a rather strange example of possible Solar X-Ray enhancement of a recent MARS net. A Dec. 30 net at 7 PM opened on 4.02 MHz and to everyone’s surprise, NVIS propagation was maintain for the complete hour on this frequency rather than requiring the normal QSY to 3.3 MHz alternate frequency at 7:10 PM. The Solar Flux (75), Solar Wind (336-367 km/sec) and Kp (1) were quite low and normal, so the CF should have dropped rapidly to about 2.5 MHz in the first 15 minutes of the net; instead, it remained at something greater than 4 MHz for the



**Figure 7: GOES X-Ray Flux for 30 Dec. 2007**

complete hour. Unfortunately I could not get an exact CF since the Dyess AFB Ionosonde was not functioning. I finally found a possible answer when I looked at the Solar X-ray data at:

<http://www.swpc.noaa.gov/today.html> for the net period. The solar x-ray plot for that evening is shown in Figure 7. Note that the Solar X-Ray flux peaks during the time of the MARS Net (Dec. 31, 0100Z). The intensity of the X-Rays are below that of a M5 Flare (5E-5 watt/m<sup>2</sup>), and occurring at dusk, was unlikely to have caused much increased D-Layer absorption. My Solar and Terrestrial Dispatch propagation text book describes a similar situation where a solar flare can have high levels of extreme ultraviolet (EUV) radiation that will enhance ionization in the E and F layers without producing excessive ionization in the D-layer. While this phenomenon is not something we can count on to help us, it does demonstrate the complexity of ionospheric propagation.

Good radio operators should use measurable parameters like CF to select the optimum operating frequency to move traffic using NVIS propagation.

In my next installment, I will discuss NVIS antennas. Please contact me at my roster e-mail address if you have any questions, corrections or comments.

Lew W5IFQ, AAR6UK ■

### QCWA Happenings

It was decided several months ago that the local chapter #67 of QCWA would be mostly for the purposes of socializing. There are monthly gatherings for food and a semblance of a meeting, bringing everyone together to know about any business needed to be discussed – mainly the minutes of previous meetings, some reports from those doing things for the group, and discussion about the future and what we might need to do.



At February's meeting, the president appointed a committee to propose a slate of officers for the upcoming election. Discussions varied with emphasis on recruitment efforts, the Lanier School program possibilities, current membership and dues now payable (\$10 for the year), a number of stories about this and that, the latest gossip – especially about those not in attendance, and oh yes the recognition of members for 50, 55, & 60 years since they first acquired their ticket. Seems some should have received these a little earlier, but we are catching up, and if the records can be properly updated, we should be able to stay ahead of this. Those at the meeting receiving their pins for the years were, Joe Makeever W5H5 (1954) 50 year pin; Robert McCord W5ATA (1953) 50 year pin; Roger Wines W5WIA (1952) 55 year pin; & Curt Goodson W4QBU (1947) 60 year pin.

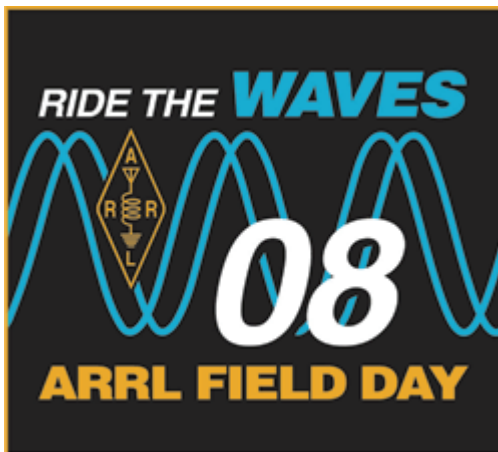
Those acknowledged for their years but not in attendance to receive their pins were James Henson, Sr. W5BVN (1954) 50 year pin; George John W5TXP (1957) 50 year pin; & Hal Henegar W5MDL (1946) 60 year pin.

We welcome all guests at our 'breaking of the bread' meetings held the 3<sup>rd</sup> Saturday of each month in the back room of Denny's on Burnet Rd (at Anderson Ln) @ 13:30 (+/-). Come early, eat, socialize and sometimes we even have a program (or entertainment), but most of all some enjoying each other's company, and remember to stay late to protect yourself from additional gossip. We promote fun. ....W5WIA

### 2008 Field Day Web Page Good to Go:

The official 2008 ARRL Field Day Web page <http://www.arrl.org/FieldDay> is up and running. The page includes a summary of available resources, with links to Field Day forms and rules, logos and reference links.

There is also a link for ordering commemorative Field Day T-shirts, pins and other supplies. ARRL Sales and Marketing Manager Bob Ind erbitzen, NQ1R, said supplies will begin shipping in early March, but it's not too early to place a pre-order now. Radio clubs are encouraged to order early.



## **AARC Meeting Minutes: February 5, 2008**

**Meeting called to order:** 7:02pm by President Don Dudley, AC5YK.

Opening remarks and "housekeeping" announcements made. Starting next meeting, we will broadcast the meeting to help everyone hear, so bring a MP3 player with FM reception capability.

**Visitors:** Roy Molina, KE5PCL; Juanita Molina, KD5OIE; James Cooper, KD5EA; Edward Clair, KG6IGS; John Habbinga, KC5ZRQ; Robin McGee, W7PPB; Richard Kirchof, IV, KD5YRF; Kenneth Greenwald, KE5RZH.

**New Members:** Allan R. Tiemann, KE5SSG.

**Minutes:** last meetings minutes approved as written in the AARCOVER.

### **OFFICER REPORTS:**

**Treasurer:** \$1680 in checking account; \$7585 in equipment fund; paid memberships at 131; attempting to compile list of club assets; the club needs 51% of its membership to be ARRL members for AARC to be ARRL affiliated; we are re-applying for ARRL Special Service Club status; AARC no longer pays taxes on its phone bill and will seek a refund for the past four years of taxes we should not have paid; we now have a form and written policy for reimbursements.

**Editor:** AARCOVER sent out on Yahoo Group; send articles.

**ARES:** Stuart Rohre, K5KVH, prepared a W5KA inventory of over 73 items. Roger Wines, W5WIA, reported: response team meeting next Tuesday at 6:30pm at CTECC.

**Others:** Jeff Schmidt, N5MNW, is working to solve why some people are not receiving the swapnet newsletter when it is sent. Lew Thompson, W5IFQ, reported a WINLINK operating manual has been posted on the website. Lee Cooper, W5LHC, told everyone not to miss next month's very interesting presentation on Internet Astronomy.

**Old Business:** D-Star installation report: 146.48 (1MHz split up) is running.

**New Business:** Capital 10K Packet Stuffing Party coming up March 8<sup>th</sup>, please participate so the club can receive \$2000. Stuart Rohre, K5KVH made a motion to authorize the Scholarship Committee to proceed with awarding scholarship. The motion passed.

**Ham of the Month:** Jim Trulove, WB5EMI.

Slides and discussion of upcoming events: all listed in the AARC Swapnet newsletter, at [www.austinhams.org](http://www.austinhams.org), or at the Yahoo user group.

**Announcements:** Mitch London, KD5HCV, announced this year the US Amateur Radio Direction Finding Championships will be held in May at Bastrop. Would the club like to form a team and practice for it. Mitch London and Alan Russell, KE5DTR, demonstrated amateur radio at the Boy Scout Camporee held in Web-berville back in January. They also are planning to set up demo stations around town and at Zilker Park in the near future to draw public interest to the hobby, and want members of the club to participate.

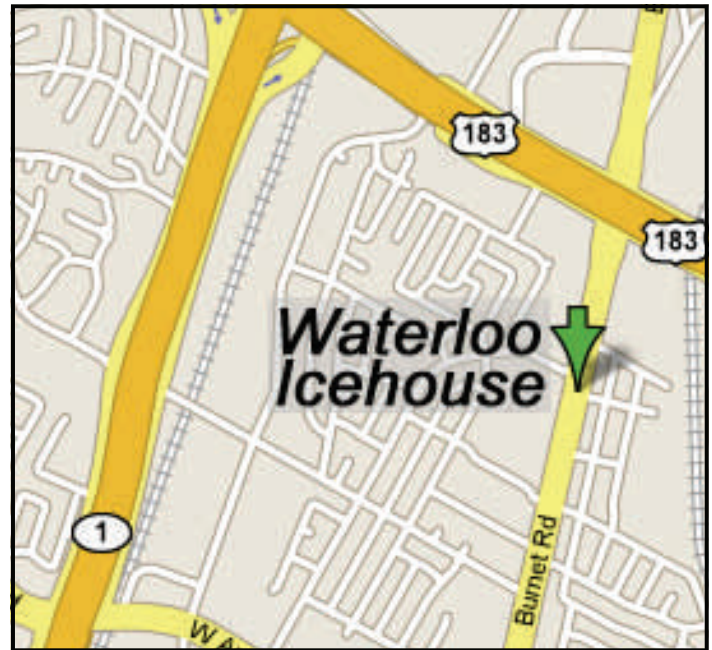
**Meeting Adjourned:** 7:36pm

**Presentation:** Digital TV by Roy Walker, WA5YZD.

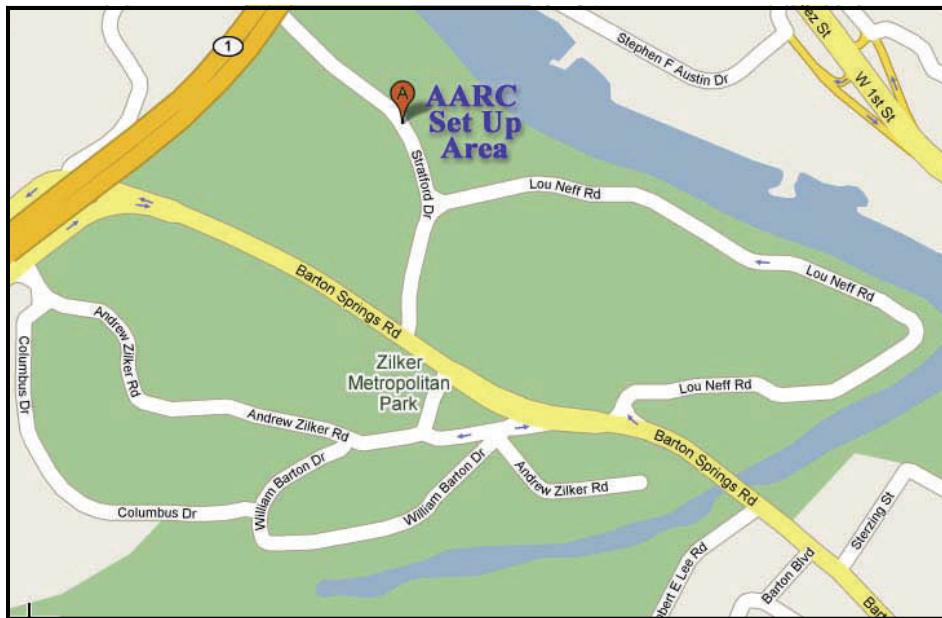
## New AARC Meeting Location

At the January meeting it was mentioned that due to popular demand and other reasons, the AARC meetings are moving to a location that serves food. The AARC business meetings will be held at The Waterloo Ice House Restaurant at 8600 Burnet Rd. It is recommended that you show up early and grab dinner if you wish to eat as a courtesy to the guest speakers so they don't have to contend with wait staff running in and out serving food. By no means is this a requirement just a courtesy asked for. This Waterloo is the same one that is used for Saturday Morning Breakfasts, so some people already know where it is. Basically it is just North of Steck Avenue on Burnet Rd. Waterloo has some good food so come on by early and chat with some hams. Below is a link to Waterloo's website...

<http://www.waterlooicehouse.com>



## AARC Takes Over Zilker Park March 1st!



OK, well maybe not the whole park.

Starting at 9am on Saturday March 1st the AARC is going to set up an informal demonstration area for the general public to come find out about Amateur Radio. On the map above is hopefully where we can set up. Since it is a public park, it is a first come first serve basis. Normally groups and organizations are charged a fee to set up in parks, but we have permission to do so as long as we are not selling anything, and we are not allowed to approach people in the park. They basically have to come to us. I figure with the antennas and tents and such that we will have set up, that should drum up curiosity enough to bring people over. So, what we need from you is for you to show up and have a good time! Like I say this is informal so we will have some radios, for people to look at and even operate, as well as some flyers. We will have hams on hand to answer questions for people.

Come on by and show your support for Amateur Radio. Drinks and snacks will be available. If you have any questions, feel free to contact me at [kd5hcv @ arrl.net](mailto:kd5hcv@arrl.net). If this goes well, perhaps we can set up in different locations every month or two!

73 Mitch London, KD5HCV

## **AARC Meeting Info.**

### **Waterloo Icehouse**

**\*\*NEW LOCATION!!\*\***

**8600 Burnet Rd. South of 183**

#### **Officers Meeting**

**March 18th 6pm Waterloo Icehouse**

**Regular Business Meeting 7:00PM**

**March 4th - SLOOH-Internet Astronomy. What is it, and how do you do it? Find Out!**

### **2007 Upcoming Amateur Exams**

ARRL VEC- March 1st & April 5th 9a.m. at The Quarries.  
\*\*\*See page 2 for location change. Contact Joe Makeever,  
W5HS (345-0800) or Joe Thiel, N5SMN (832-0450) for info. \$14 fee.

W5YI VEC- March 15th April 19th 2p.m. in room 106, Fleck Hall, St. Edwards University. Contact Jim Greenwood, AB5EK arrl.net, (327-6184)

<http://texasparadise.com/w5yi-austin> for more info.

#### **\*\*\*\*\*DUES ARE DUE!!!\*\*\*\*\***

Dues must be paid by April 15, to be included in the annual Roster. Contact Jay Hoffman, KA5OST (512) 388-4404 or ka5ost@arrl.net or you can pay dues online at...  
[www.austinhams.org/join](http://www.austinhams.org/join)

## **2008 Calendar of Events**

Mar 1 **AARC Amateur Radio demo station** in Zilker Park. See Page 9.  
Mar 1 **Brazos Valley Amateur Radio Club South Texas Section Convention.** Fort Bend County Fairgrounds. Rosenberg, TX  
Mar 8 **Capitol 10K Packet Stuffing Party 8AM-8PM**  
AAS main building just NE of Congress & Riverside  
Mar 8 **Irving ARC Hamfest** Betcha Bingo Hall, 2420 W.Irving Blvd.#125, Irving, Tx  
Mar 9 **WCARC Sunday Hamfest** Georgetown Community Center - San Gabriel Park, Georgetown, TX  
Mar 30 **Capitol 10K Race and Fun Run**

#### **Mar. Austin Meetings/Happenings**

4	1	AARC Meeting Waterloo Ice House**	7:00 p.m.
8	12	Austin QRP, Alvin's Sandwich Shop	11:00 a.m.
11	8	ARES Training -CTECC	6:30 p.m.
12	9	High Speed Multimedia SIG Red Cross	7:00 p.m.
18	15	ATV Club Mtg. Mangia Pizza	6:30 p.m.
15	19	QCWA Denny's on Burnet Rd.	2:00 p.m.
24	28	Travis Co. REACT Denny's on Burnet	7:00 p.m.
25	22	Travis County A.R.E.S., ARL Aud.	7:00 p.m.
26	23	Packet Set-up Lab @ Red Cross*	7:00 p.m.

\* *January meeting moved back one week due to New Years Day*  
\*\**AARC Business Meeting is at Waterloo Ice House 8600 Burnet Rd. See Page 7 for details.*

*Return Service Requested*  
**March 2008**  
Austin, TX 78765-4739  
PO Box 4739  
Austin Amateur Radio Club  
AARCOVER