

The Groundwire

TYLER AMATEUR RADIO CLUB

April 14, 2011

PRESIDENT'S MESSAGE



Mark - W5MCT

No column this month.

RECENT EVENTS

Notes From The March Club Meeting

The March meeting was held on Thursday, the 17th. After reports from the officers, Gene Coldwell gave an excellent presentation on D-STAR¹ - a digital voice and data protocol specification developed as the result of research by the Japan Amateur Radio League to investigate digital technologies for amateur radio. Too much to cover in a short presentation, Gene stuck to the basics but it was enough to give anyone interested in the technology a place to start doing their own investigation in to that aspect of the digital communications aspect of amateur radio.

This meeting saw the Club's roster continue to grow with three new members

¹ Digital Smart Technologies for Amateur Radio

joining our ranks:

- Julius Blackwelder - KF5JMT
- Elizabeth Blackwelder - KF5JMU
- Wayne McCloskey - KF5JMM

Public Service

The annual "Beauty and the Beast (B&B) bicycle race was held on Saturday, March 26th. A total of ~660 riders participated in the event which had six different race courses ranging from 12.5 to 67 miles long in length. However, *all* of the courses required riders to scale "The Beast" - a lengthy and formidable hill that tests the strength and endurance of even the best riders as it comes near the end of each course when muscles and lungs are tired.

Once again, ETECS/TARC volunteers manned communications stations, water stops, rest stops and provided SAG² support under the direction of Art Sharp (K5LXK), TARC's Public Service Coordinator. Art and his crew received many kudos from both the race officials as well as the riders themselves.

The racing venue was again the KE Bushman's Winery and Celebration Center in Bullard. Race officials provided a nice spaghetti lunch, water, cold drinks and the obligatory event T-shirt for the cyclists and volunteers. A few pictures taken at this year's event are on a separate page attached to this newsletter distribution.

² "Snatch and Grab" - bringing tired or injured riders back in

Monday 2M Net Participation

Check-in statistics for the latest series of TARC Monday night nets were as follows:

Net Date	Net Control	Check Ins	Traffic
3-14	K5LXK	35	6
3-21	W5MCT	39	3
3-28	K5LOW	43	5
4-4	KC5SMC	37	5
4-11	K5LOW	37	3

The Club's weekly two meter net is held each Monday at 8:00 PM on the Club's K5TYR repeater, (147.00 MHz, negative offset and 110.9 PL tone). It continues to be one of the most active VHF nets in East Texas. The net is open to all licensed hams. More information about this and other area nets can be found [here](#).

VE Testing

Testing for new and upgraded amateur radio licenses is conducted by local area VEs on the ***second Sunday of each month at 2:00 PM*** at the American Red Cross building at 320 E. Rieck Road in Tyler. Any schedule changes will be announced on the TARC two meter net (details above). Mac McGraw, AE5FH, is the contact VE. You can [e-mail](#) him or call him at 903-839-7916 for more information.

The next session will be on May 15th. This is the ***third*** Sunday because Mothers' Day is on the second Sunday this year. Those wishing to take/upgrade to General are reminded that the question pool will change on July 1st.

UPCOMING EVENTS

Webinar on Antenna Ordinances

The ARRL West Gulf Division Director, David Woolweaver, K5RAV, is hosting a webinar entitled "Antenna Ordinances, You and the ARRL" on Wednesday, April 27, 2011 9:00 PM - 11:30 PM EDT. Featured speakers for this webinar will be ARRL General Counsel Chris Imlay, W3KD, and noted antenna zoning lawyer, Fred Hopengarten, K1VR.

The scope of the webinar will be an overview of common local antenna regulations that can impact amateur radio tower installations and how the local amateurs should approach dealing with local city officials. Following the presentations by Imlay and Hopengarten, participants will have the opportunity to ask general questions related to the topic.

Please note this is only a general informational forum. While useful information will be shared, it is not the intent for the presenters to answer questions directly geared towards resolving an specific antenna zoning situation. They will not have the full facts of the situation and may not be licensed to practice in your state. If you are involved in a specific antenna zoning situation, you should contact the ARRL Regulatory Information Office atreginfo@arrl.org with a request for assistance. The Regulatory Information Manager will be happy to provide you with information and contacts for your specific situation.

Amateurs wishing to participate may register over the web by going [here](#). For

more information, contact David Woolweaver via email [here](#).

Hamfests/Tailgate Events

ARCOS: The Amateur Radio Club of Shreveport is again hosting their annual cookout and swap meet. It's going to be at the Cypress Black Bayou Recreation Park just north of Bossier City on May 7th from 10:00AM to 3:00PM rain or shine. (There's a pavilion there.) Besides coffee and doughnuts for early birds, there'll be a **free lunch** (but feel free to donate) of hamburgers, hot dogs, desserts and drinks will be served from noon to 1:30. Door prizes will be drawn throughout the day with a grand prize drawing for an Icom ID-880H dual band mobile radio also in the offing and you do not have to be present for the grand prize drawing to win. For more information, contact Mark Robertson (K5JMR) by email [here](#) or at (318) 747-9877..

LETARC: Todd Hoover (N5TJH) of the Longview club (He's a member of TARC, too!) has told us that they're planning a tailgate event for Saturday, May 14th. Details (time, where, etc.) aren't fully set. They have invited TARC members to participate in a "combined two-club" event so some details may depend on how much TARC participation is anticipated. That is, not just as buyers but also as sellers so enough parking space, etc. can be arranged.

If you're interested in participating in this event as a seller, contact Todd [here](#) and let him know as soon as you're confident of your participation and how much space

you'll need - obviously the sooner the better.

Technician Class Training

The Athens radio club will be conducting training for the Technician class amateur radio license on April 14th and 15th. For further information, visit their website [here](#).

New 10M Net

The New Boston Amateur Radio Club has begun a 10M SSB Net on Sunday nights. The start time is 7:30PM and the frequency is 28.350 MHz. This is an open net and all licensed amateurs with SSB privileges are welcome to check-in.

Breakfast Group

The TARC "Hams & Eggs" breakfast social is nominally held on the **fourth Saturday** morning of the month at The Kettle restaurant on the north side of the Loop 323 in Tyler just across from the Brookshire's plant. Holidays or other events may effect a re-schedule. The unofficial meeting time is 7:30 but be sure and arrive at least by 8:00.

ETECS News

The "new" ETECS van will likely be a "work in progress" for some time to come so there will be continuing opportunities for anyone interested to make their own, personal contributions. Painting, lettering and even interior configuration are some of the areas that still need attention. The March 19th work session concentrated on repairing the parking brake cable (well

done Bob Sanford!) but other items were addressed as well.

The initial check-out of the ~40' pneumatic mast (a "push-up pole on steroids") was successfully completed. It still needs a bit of lubrication and cleaning up but its basic operation status has been demonstrated. Current plans are to install it *inside* the van in a small closet and cutting an appropriate hole in the roof to allow extension. It came with its own air pump so accommodation for that device will also have to be determined.

Monthly Club Meetings

The Tyler Amateur Radio Club meets on the third Thursday of the month for fellowship and enrichment of our ham radio experience. Meetings are held at the Shiloh Road Church Of Christ, corner of Shiloh Road and Paluxy in Tyler at 7:00PM. Club meetings and membership are open to all interested persons, with or without an amateur radio license. There are usually cookies, candies, sodas etc. to share *but only* if members or guests bring them.

The planned TARC meeting agenda for the April as follows:

- Nominating Committee report and HOTY¹ nominations.
- Plans for the May Annual Dinner and Elections meeting including "Gag Gift" plans and food plans for the annual dinner

¹ "Ham Of The Year"

- 2011- 2012 Club dues are due as of June 1st. Dues remain at \$25.00/year with \$12.50 for each additional amateur from the same family.

TECH TALK

This portion of the newsletter provides a venue for technical topics of general interest to all hams. Broad topics such as equipment, antennas, feed lines, connectors, baluns, interference, etc. are all part and parcel of any ham activity. The purpose is to provide some basic information along with references and links for further reading and study. Here's an opportunity to "e-Elmer" each other - let's use it! Submit your contributions to us [here](#).

Well, Isn't That Just The Limit!

The "limit" in question is, of course, the Chu-Harrington Limit². Some researchers at the University of Illinois have devised a nanoscale printing technique that allows for the creation of so-called **3D antennas** that approach the C-H limit - a non-trivial engineering accomplishment, for sure. The link to that *very* interesting article is [here](#).

Searching for a bit more information on the C-H limit, I found [this](#) paper (PDF file) on *ultra wide-band antennas*. While that nine-page document eventually gets into some pretty hairy mathematics, the first four pages are easily read, and *should* be read by any ham interested in antennas (and who isn't?), and especially by those that aren't altogether sure just exactly

² A theorem that relates the inverse fractional bandwidth of an ideal, perfectly efficient antenna to its size.

what an antenna actually is. (Did you know that antennas are characterized as either “electric” or “magnetic”?)

The general tone of the paper can be demonstrated by this quotation from page four: *“While traditional narrowband system design can afford to take a laissez-faire attitude toward antennas, pounding a square peg antenna into a round hole RF front end using a matching network hammer, an ultra-wideband system design requires a more holistic approach.”* Happy reading!

THIS ‘n THAT

Ham Radios and RV's

(Submitted by “Mac” McGraw – AE5FH)

A Match made in Heaven (Sort of)

Think of the best features of the ideal Ham Shack. In no particular order, what would they be? Weather tight! Heated and air conditioned, that's a must. Cozy and inviting with several chairs, good for friends to drop over for an eyeball QSO. Maybe a place to get snacks, with a refrigerator for cold drinks . An inverter with some good sized deep cycle batteries. (The laptop needs charging now and then to run the logging program.) Auxiliary power on demand would be really great. A bathroom close by would be a nice touch. Maybe a couch, to relax on during a stressful DX contest. Reasonable lighting. A TV to check the Weather Channel. Hold on a minute, I just described my RV!

In addition, the RV is mobile. Field Day comes to mind. But what about all the horror stories we've heard, concerning grounding and antennas? Let's see if those

can be addressed. Is the RV electrically grounded throughout? Emphatically, NO. Can it be made so. Mostly, YES.

This subject is much larger than this short and admittedly light article could cover but there are several points to consider. All RV mobile units are made up of assemblies, which are connected but not necessarily electrically connected. For example, the chassis or coach body and the frame are connected so they travel down the road at the same time, but they are frequently isolated from one another, by rubber washers to prevent wear while in motion. Electrical continuity is blocked. To ensure a stable and electrically quiet base for our purpose, we must exert some elbow grease and good old electricity "know how" to achieve continuity.

Using a good braid and stainless steel clamps or bolts, it is easy to see how to connect the coach frame and the chassis together. If you wish to work mobile, don't forget to tie the exhaust to the frame. It's a real source of noise in motion. Do tie the rear ladder to the coach frame, we may have uses for it later.

Let's think about the radios we would like to have available. VHF, for sure, two meters for local repeaters and club conversations. HF for contests and DX, with some practical limits on power and antenna sizes. Fifteen hundred watts PEP sounds just a bit much, as we consider the other elements of a complete system. QRP comes to mind, particularly in terms of CW operation. You can work a large portion of the world on five watts. One hundred watts might be a more practical rig. After all, we can always turn the power down to

the amount required to carry on the QSO. In fact, it's not only courteous, it's the law. Twenty two amperes at twelve volts will power most transceivers at about one hundred watts with some power to spare. Sounds just right for a ten gauge copper wire from the coach batteries fused on both legs.

The cable to the antenna is the next consideration. Don't skimp, use a quality coaxial cable that will transfer the signal you have created to the radiating location. If possible, make it a single run to the base of the antenna without connectors. Secure it to the chassis frequently. You'd be surprised at the vibration and wear a motor home or trailer creates.

Now, what about the hard part, the antennas? This subject is as diverse as there are amateur radio operators. Each will have a favorite band or mode and each will require consideration of the best way to get the signal out. Antenna portability is a must, as few antennas will stand seventy miles per hour winds and remain secured to the RV. There are exceptions when we consider VHF, antennas for through the glass or externally mounted on mirrors are available. But, from a practical standpoint, anything lower than ten meters is usually an option for stationary operation. The antenna must be removable for storage, yet easily assembled for use.

There is another consideration. Storage space on an RV is at a premium, as the "significant other" will quickly remind you. Length of storage is limited as well. So, any antenna must break down to short sections. On my rig, this is eight feet. On most others, not so lucky.

Let's start from the top bands down, starting on two meters. In the March, 2008 issue of QST, you can find a great antenna which breaks down into three feet by sixteen inches by two inches for storage and still gets seven db gain omnidirectional performance. You make it yourself, from PVC pipe and rigid aluminum tubing. With an eight foot piece of PVC as a mast, and two hose clamps to the ladder, you are good to go, with no ground required.

As we consider the HF bands, it's not so easy. The simplest solution would be a mast, hinged at the bottom, attached to the rear ladder. The mast would be constructed to terminate on the upper end with a fitting for the base of a Hamstick. A spring loaded clamp near the top of the mast would allow the mast to be pivoted down, to allow the changing of the Hamstick for various bands. While this arrangement won't get a bunch of DX, it seems to work well and it's simple and inexpensive.

This article won't start many of you running out to purchase a new motor home or trailer, but I hope that those of you fortunate enough to own one, will consider the possibility of incorporating two hobbies into one. 73 and Happy RVing.

Train Your Brain To Stop The Drain!

We humans can lose a little or a lot of our mental faculties for a plethora of reasons, not the least of which is (ahem!) age. As it turns out, that particular organ of our bodies falls into the "use it or lose it" category of what can go wrong as we "mature". It also seems that no single type

of mental exercise is required but rather a suite of exercises designed to manipulate our “little grey cells” in different fashions. Of course, as with most exercise programs, the sooner started, the better results.

With that said, TARC members might be interested in [this](#) site that offers one example of a suite of targeted mental workouts. It’s freebies for a start but requires a subscription to progress past the introductory level.

WorldRadio Online

In a previous edition of the newsletter, we pointed to a *free* online ham radio magazine published by the same good folks over at *CQ Magazine*. The latest edition of WRO can be found [here](#). As with past issues, it’s chock full of good stuff for amateurs of all license classes and experience.

Seek You Dee Ex! Seek You Dee Ex!

I love DX-ing. For me, there’s few ham radio-related activities that I like as much as rag chewing with foreign nationals on a sundry of topics. For such, the vocal equivalent of the title of this section is usually sufficient to start a true conversation where knowledge and opinion on a variety of subjects are freely shared and enjoyed. I’ve had many such QSOs of 30 minutes or more with stations all around the globe.

That said, I also “chase” DX in the time-honored tradition of the ARRL DXCC²

¹ Apologies to Agatha Christi’s Hercule Poirot

² DX Century Club – The world’s longest, continuous, self-paced contest extant.

awards program. While I’m not “viral” (as they say) about it, I do try to increase my “entity count” at every opportunity. In that part of DX-related activity, calling CQ is rarely fruitful when looking for a “new” contact, once you’ve QSOed with a couple of hundred countries. In such cases, it’s time to enter the world of DX spotting “clusters”.

Though they have evolved since first introduced some 20 or so years ago, DX clusters’ form and purpose has stayed much the same. Basically, they comprise a (usually open and free) “announcement board” where hams around the world can post QSO information in near real time, listing station call sign, band and frequency. All the hungry DXer has to do is log into one such cluster and look for contacts with the “countries” they’re interested in and then QSY to the designated frequency and join in the chase.

One of the better known and highly used clusters can be found [here](#). It’s free, browser-based, easily navigated, has “filters” and is the one I use the most. If “telnet mode” is the preferred method of tracking “spots”, there’s a huge list of such clusters [here](#). There’s some freebie telnet client spotting software [here](#), [here](#) and [here](#) that “prettys-up” telnet spots making them a bit easier to read.

RANDOM THOUGHTS

- The nicest thing about the future is that it always starts tomorrow.
- Money will buy a fine dog but only kindness will make him wag his tail.
- Why is it, at class reunions, you feel younger than everybody else looks?

ITEMS FOR SALE

TARC members with items that they'd like to sell (or swap) can have them listed on the Club's website by [e-mailing](#) a full description of them along with price (or swap) targets to the Club's webmaster Gaylen Gage (KD5KIZ). A list and description of any items currently for sale or trade can be found on the Club's website [here](#). Since the list changes over time, it's best to check it out each month.

FROM THE CNN DESK ...

An Awarding Experience



Elaine – KF5CNN

First, I want to say that I'm *not* the type of wife that snoops in her spouse's mail and such, but while doing some overdue housework, I came across a stack of his old ham radio log books. I know that we hams are no longer required to keep detailed logs of every contact like once was the case, but perhaps we should.

To begin, you need to understand that Bob is one of those types of readers that writes in the margins of the books he reads, which is why he usually buys books vice going to a public library. (They tend to frown on such practices.) His log books are no exception. Spaces for log entries are only one-sided which leaves the reverse side of each page blank where notes could

be written. Bob's logs are full of such entries and they read almost diary-like in their content. Being only newly licensed and with little HF "stick time" to my credit, I can now understand much better his love for DX and what enjoyment he has with the headphones on holding QSOs with stations around the globe. I think his logs will be a wonderful legacy for his grandchildren to have. If you've stopped keeping logs, maybe you should consider starting again.

Further evidence of his DX activity was found in some records he kept of the operating awards he received. In all, they showed 69 awards from 28 countries dating from 1978 through 1982. (Remember Cycle 21?) The awards themselves have somehow become lost in the several QTH changes we've made since then, but I recall some of the "wallpaper" and much of it was very colorful and elaborate.

My point here is that the HF bands offer lots of operating opportunities that the VHF bands have a hard time matching. If your ham radio activities start to feel like a "rut" and too routine, perhaps some DX "chin wagging" and a bit of DX award chasing would be a good way to bring back some of the excitement.

Come to the Club meeting, wear your badge and bring a visitor and/or something to share.

Bob – AG5X & Elaine – KF5CNN
[Co-Editors](#)