

The Groundwire

Monthly Newsletter of the Tyler Amateur Radio Club
P.O. Box 6393, Tyler, TX 75711

PRESIDENT'S SOAPBOX

Our Most Frequent Public Service

A local amateur radio operator's most frequent public service activity may be participation in the National Weather Service SKYWARN program. Potentially dangerous weather occurs more frequently around here than all the evacuations, natural and man-made disasters and special events combined for which we might activate area hams in aide to the community. SKYWARN nets are probably the most frequently called public service or emergency amateur radio net activation in Smith County. In addition to the frequency of SKYWARN operations, storm spotting has at its core our most important service to others: Protection of life and property.

Technology, such as Doppler radar and satellite imagery are certainly useful meteorological tools, but they cannot sample the actual weather that occurs at the earth's surface. NWS Doppler radar can measure radial wind speed along the direction of the radar beam so it is useful for detecting strong winds above the earth's surface. Because of the Earth's curvature, the lowest elevation radar beam rises increasingly higher above the earth's surface with increasing distance from the radar antenna. Therefore, the radar's ability to sample the lower portions of storms progressively decreases with increasing distance from the radar antenna. This explains why weather radar becomes less effective in sampling storms with increasing distance from the antenna. Smith County is on the western edge of Shreveport's radar coverage area.

That is where we come in! SKYWARN spotters provide the "ground truth" that technology cannot. Doppler radar cannot measure the size of hail, observe a tornado on the ground, detect actual wind damage, measure snowfall on the ground or detect where flash flooding is occurring. Only people can observe these weather related phenomena.

You do not have to be an amateur radio operator to be a SKYWARN spotter, but ham radio and storm spotting is a great combination. The immediacy of spotter report communication to other spotters is perhaps the strongest argument for licensed amateur radio operators serving as spotters. It can also make verification of reports easier. Reports from the SKYWARN net to the NWS in Shreveport are well organized, concise, efficient and timely. Past SKYWARN coordinator Bob Sanford, KC5SMC, and current coordinator Don Simonton, K5LOW, have made sure that Smith County SKYWARN is well respected at the NWS Shreveport office. When Don calls Shreveport, they listen. Sometimes the NWS even calls us to see what is happening! Moreover, you can be sure that the local media and the general public are monitoring our SKYWARN nets as well.

Storm spotting is simple and easy, but it must be done correctly. Equipment is simple: Your "Mark I, Mod 0, Calibrated Eyeball" is the only mandatory equipment. The simplest of VHF radios is all that is needed to join in a net. For safety reasons, we generally do not "chase" storms in Smith County; rather spotting is done from the comfort and security of home or work. A little common sense helps, as does experience. Attend the class being given at this month's Club meeting (details below) to learn a little meteorology and terminology.

We all live in "Tornado Alley." SKYWARN is important. It needs to be our most frequent public service. I'll see you Thursday evening!

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DECEMBER HAPPENINGS

ARES Simulated Emergency Test - Summary Report

On Saturday, December 12, East Texas Emergency Communications Service (ETECS) held the annual ARES Simulated Emergency Test, or SET. Twenty-four amateur radio operators participated in some form in this ARRL-sponsored drill that ran from 8:00 AM to 11:00 AM. The SET is open to any licensed amateur operator; membership in ETECS, TARC or ARRL is not required.

Generally, the goals of the SET are:

- Identify strengths and weaknesses in ARES, RACES, NTS¹ and any other Emcomm groups
- Demonstrate publically the value amateur radio can be to agencies served in times of need
- Provide experience to participating operators in proper operating procedures under emergency conditions

Here in Smith County, we had more specific goals in mind:

- Test the establishment and utilization of a resource net for solicitation of participating operators
- Test processes for transfer of participating operators to tactical nets as needed
- Test dispatching participating operators to "unfamiliar" locations
- Test dispatching operators to served agencies
- Test local traffic-handling via RACES ICS 213 message form
- Test communications mutual-aid between Smith County and Anderson county

The scenario for the drill involved the H1N1 pandemic and the need for us to provide communications assistance for our served agencies and mass vaccination clinics that were being set up around the area. Jeff Montgomery, WB4WXD, ARES EC for Anderson County, expressed an interest in conducting their SET in conjunction with ours, hence the mutual-aid part of this exercise.

A last minute conflict for the Palestine/Anderson County ARC members precluded their complete participation in our drill. However, we did test the mechanics of moving operators between our repeaters and Palestine repeaters determining how well each county's operators could communicate with the other's repeaters. Bob Sanford, KC5SMC, acted as our resource net control station and was instrumental in maintaining order as operators were asked to check in on the 147.080 and 147.140 repeaters in Palestine and then to return back to our 147.000 repeater resource net for additional assignments. Most of our served agencies successfully communicated with Anderson County on at least one repeater.

After all operators were dispatched to their operating locations, tactical net operations were initiated on the 145.210 repeater. Mark Taylor, W5MCT, was tactical net control from the EMS-Glenwood station. Formal messages transmitted among the various participating stations using the ICS 213 general message form.

¹ National Traffic System

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An after-action meeting was held at Mercados in Tyler where over a dozen participants joined in a fine meal and discussed the following SET results:

- Strengths
 1. Number of participants far exceeded expectations
 2. Mutual aid with another county is possible
 3. In general, formal traffic handling was very good
- Weaknesses
 1. Practice transmitting formal traffic at proper pace
 2. Need user documentation of all the different radios we encounter at served agencies
 3. Some served agencies did not participate

The 2009 Simulated Emergency Test was very successful... and a lot of fun. Plan to participate in the 2010 SET next fall. To learn more about emergency communications, any TARC or ETECS member will point you in the right direction. Mark Taylor (W5MCT)

Eyes and Ears at the Mall - Summary Results

Below are the recorded volunteer hours contributed by the participating members during the Club's "Eyes and Ears" patrols at the Broadway Mall over the dates shown. Art Sharp (K5LXK)

OPERATOR	CALL SIGN	27-Nov	28-Nov	04-Dec	05-Dec	11-Dec	12-Dec	18-Dec	19-Dec	Totals
Mac McGraw	AE5FH	3.00	3.00	3.00	3.50			4.00	4.00	20.50
Michael Dodge	AG5CQ	1.50								1.50
Art Sharp	K5LXK	3.00	3.00	3.00	3.50	3.00	3.50	4.00	4.00	27.00
Terry Griffith	K5PDQ		3.00							3.00
Paul Paulsen	K5PFP	3.00		2.00					4.00	9.00
Jim Williamson	KA5RHZ				1.00	2.75	3.50			7.25
Cliff Sherrod	KD5UCY	3.00		3.00		3.00	3.50	4.00		16.50
John Browning	KE5OBT							3.50	4.00	7.50
John Smith	KE5TYU	3.00								3.00
Lyle Mains	KE5ZCG		3.00							3.00
Charles Hollowell	KF5DUX	3.00	3.00	3.00	3.50	3.00	3.50	4.00	4.00	27.00
Dennis Bennett	N5HEK	3.00						3.00	2.00	8.00
Michael York	N5OAR	1.50								1.50
John Newman	N9JN	3.00		2.00	3.50	3.00				11.50
TOTALS	14	27.00	15.00	16.00	15.00	14.75	14.00	22.50	22.00	146.25

Thanks to all the operators for a job well done!

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TARC Christmas Event

The Club's annual Christmas Event was a resounding success! Members enjoyed a veritable feast of food offerings before, during and after a fun-filled gift exchange. As well as could be determined, everyone seemed happy with their selection.

TARC Monday 2M Net Gets Lady Net Control Operator

Elaine Jackson (KF5CNN) called the December 28th edition of the Club's Monday night two meter net. It was her husband Bob's (AG5X) scheduled turn but Elaine stood in and did a very credible job as a first-time net control operator. Don Simonton (K5LOW), the Club's net control chairperson has added Elaine to the net controllers' rotation. Listen for her sometime soon when her turn will roll around again. **Good job, Elaine!**

Visitors and New Members

TARC was pleased to welcome the following new members and visitors at the December meeting. Club membership is open to all persons interested in amateur radio, licensed or not. Contact any Club officer (see below) for more information.

Name	Call	QTH	Interests
Travis Venable	--	Gilmer	ETECS, PubSvc, Nets, Satellite, ...
Willie Clark	AE5OX	Tyler	HF, VHF, Antennas

Bold denotes new member

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 7:00 p.m. Club meetings are open to all interested persons, with or without an amateur radio license.

Monday 2M Net Participation

Check-in statistics for the latest series of TARC Monday night nets are shown below.

Net Date	Members	Visitors	Total	Traffic
12-14-09	27	13	40	6
12-21-09	17	17	34	4
12-28-09	23	16	39	3
01-03-10	27	14	41	5
01-11-10	33	9	42	8
AVGS	25	14	39	5

The Club's weekly two meter net is held each Monday at 8:00 PM on the Club's K5TYR repeater, (147.000 MHz, negative offset and 88.5 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](#).

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VE Testing Results

Congratulations to the following newly licensed / upgraded amateur radio operators!

Testing Date	Name	QTH	Class	Call
12-13-09	Charles Hollowell	Flint	General	KF5DUX
	Donald Brown	Hideaway	General	KF5DUW
	Steven Phillips	Whitehouse	Technician	KF5EHX
1-10-10	Danny Kresta	Tyler	Technician	KF5EMZ
	Robert Koslover	Tyler	Extra	KF5BQL

Testing for new and upgraded amateur radio licenses is conducted by Club VEs² 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.

UPCOMING EVENTS

SKYWARN™ Training at the January Meeting

SKYWARN™ is a concept developed in the early 1970s that was intended to promote a cooperative effort between the National Weather Service ([NWS](#)) and communities. The emphasis of the effort is often focused on the storm spotter, an individual who takes a position near their community and reports wind gusts, hail size, rainfall, and cloud formations that could signal a developing tornado. Another part of SKYWARN™ is the receipt and effective distribution of NWS information.

TARC will once again host the NWS's basic spotter training class on the SKYWARN™ program. This year's NWS training session will be held at TARC's January 21st meeting. Training will begin promptly at 6:30 PM immediately following a brief Club meeting at 6:00 PM. The training session will last approximately two hours.

Over sixty invitations to join us have been sent to the media, other area ARC's³ and to police and fire officials in Tyler, Smith County and surrounding communities. All TARC members are encouraged to attend both for their own benefit as well as demonstrating to our visitors the Club's commitment to this very important public service.

2010 National Storm Conference

A full day⁴ of severe weather presentations and training featuring a new D/FW⁵ "super tornado" scenario. Presentations will discuss impact, preparedness and mitigation and will include the annual Super Storm Spotter Training Session in the morning. **The event is free and open to**

² Volunteer Examiner - All amateur radio license tests are conducted by licensed volunteers.

³ Amateur Radio Clubs

⁴ Saturday, March 13, 9:00 am - 5:00 pm, Colleyville Center, Colleyville, Texas

⁵ Refers to the Dallas/Ft. Worth Metroplex

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the public. Registration is not required, but seating is limited so arrive early. Complete details can be found [here](#). Don Simonton (K5LOW)

Monthly Club Meeting

The Club meeting primary agendas for the next three months are as follows ...

- February 18th - Annual Chili Cook-off (Bring Roloids!)
- March 18th - Fox Hunting Presentation - TBD
- April 15th - Nominations for new officers; Preliminary Field Day Planning

TECH TALK

This portion of the newsletter provides a venue for technical topics of general interest to all hams. Broad topics such as 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!

Feed Me! Feed Me!

A frequent cry from babies of all species as well as most male teenagers and some husbands, it's also your antenna's constant need in order that it try to live up to your expectations for its sending your radio's RF out onto the ether to be picked up by your intended receiver. As all hams know (or should know), it's the job of the feed line to make that connection. More often than not, but no exclusively of course, it's some form of coaxial cable (just "coax" for short) that's chosen to do the job.

Fortunately, if somewhat confusingly, for today's ham there's a plethora of coax choices at hand. It follows then for the ham to have at least a passing knowledge at the differences between kinds, sizes, uses, etc. of the various types of coax available. Fortunately, one of the major manufacturers of coax, Belden, has a web site [here](#) that does a reasonable job at providing such education. While Belden uses their own unique numerical designations for types, they include a reference to the obsolete "RG" designation as well.

Times Microwave is another highly regarded manufacturer of coax. While they mainly market to commercial and military end users, their products are equally useful to hams. Their "LMR" line of coax cables can be reviewed [here](#). There are other manufacturers and many dealers/suppliers of coax, some better than others, so it behooves us all to be careful shoppers and know what duty we expect from the product, how and how far the product will be deployed, etc. etc.

Some additional information regarding signal loss can be found [here](#) and some data on velocity factor (needed for making stubs, etc.), shielding and capacitance can be found [here](#).

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Singing in the Rain ...

... or frying in the sun. Either way, it's a good bet that there's at least two connectors on your feed line that are exposed to the weather. If the connectors are the ubiquitous "PL-259" type, they're going to require some sort of sealing. The standard solution has usually been "electrical tape" or heat-shrink tubing or both in combination. As with all such products, there's good and not-so-good examples out there.

As for heat-shrink tubing, your editor has recently used some made with a chemical polymer called "polyolefin". Such tubing has very high chemical resistance and shrinks to about 50% of original size. That's 10% better than other types which means a tighter seal.

When it comes to electrical tape, the "Scotch" brand is still preferred, at least by yours truly. Their types "33" and "88" products provide excellent flexibility, adhesion and UV protection. The latter is especially good because the first layer of protective tape used here at Editorville is Scotch #2242 "Linerless Splicing Tape". When stretched out to about 50% of its width during application, this stuff creates a seal that, in our limited experience, keeps out everything, solid, liquid or gas. Further, if it has to be removed or replaced, it doesn't leave any sticky "goo" or residue like some other products we've tried. However, it doesn't have any resistance to UV (we're told) so wrapping a layer of "33" or "88" is required for full protection.

MEMBERS' CORNER

John Browning - KE5OBT

John's association with radio started at the tender age of 12 through association with his retired naval radio operator uncle. During his tour with the Army, radio was an everyday part of John's life. He was licensed for amateur radio in May of 2007. You can read his full story and see his "shack shots" [here](#).

To be featured in "Members' Corner", submit your "ham biography" (e.g. when and how you got started in amateur radio) and a photo of your shack via [e-mail](#) to [The Groundwire](#).

THIS 'N THAT

TARC 70 cm Repeater

Ed Wilkinson (N1EW) reports that the Club's 70 cm repeater (444.400 Mhz with a 110.9 PL tone) has been repaired and is back in service. Ed asks that those with 440 capability use the repeater and report back to him on signal strength, audio quality, etc. Ed can be reached by e-mail [here](#).
Thanks, Ed for all you do to keep our machines operating!

So Many Links ... So Little Time

How many links (aka "bookmarks") do you have in your web browser's "favorites" folder? If you've had a computer for more than a week, it's a safe bet that they number in the hundreds. It's also a safe bet that your browser's "Organize Bookmarks" menu item has become laughingly inadequate to carry out its intended purpose because it continually does what you tell it to instead of what you want it to do.

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Your editors haven't yet found a truly good solution to this problem but [here's](#) a website that might, at least with respect to your ham-related browsing needs, prevent it from becoming even worse. It is, in the owner's own words "700 AMATEUR RADIO TOPICS, 6,000 LINKS, 132 PAGES ANTENNAS TO ZONES". It's a kind of "mother lode" of links to links to links ad infinitum. It even hosts a search capability. What would induce any ham to spend the huge amount of time it must take to produce such a resource is beyond understanding, but there it is. So, for your ham-related Internet surfing, you could "bookmark" just this one site and use it as your "base". Oh, and it 100% freebies.

Add Two, Get Six

Readers may recall that the residents at Editorsville recently completed a protracted installation a four-band HF vertical at their QTH. Wishing to add at least some WARCⁱ capability to that antenna, the 'Net was searched for a home brew solution that embodied simplicity, low cost and effectiveness. That solution was found [here](#). Of course, "local" ideas regarding the exact [engineering and implementation](#) to be used were injected. The final results have been gratifying with full, low SWR coverage on 12 and 17 meters (no addition of 30M capability was attempted). Interaction with existing bands is all but undetectable⁶ requiring no adjustments to the original configuration. Total cost for the modifications was **ZERO** as all required parts came from the recycle bin.

It's probably worth adding that the vertical in question is a "trapped" design. Other designs that use loading coils and tuning stubs instead of traps may experience more interaction and therefore the need to re-tune from the original configuration may be greater.

Well, For Pete's Sake!

When your editor was just a boy, movies were (a) mostly in monochrome, (b) ended with a cartoon and (c) included the Movietone News - the "Eyes and Ears of the World". Frequently included was one of a series of short films called "A Pete Smith Specialty". Following up on an email your editor received regarding "The CW Operators' Club" (CWops - not to be confused with [DooWops](#)), a page on their site called "Fun Stuff" contained this [link](#) to one of Pete's films that is posted on YouTube. It's an interesting piece that runs about ten minutes. The CW is all correct, well keyed and easily read.

While the film's production date in the opening credits is unreadable, a good guess would put it in the mid-thirties. It's somewhat about ham radio in general but centers mostly on the use of CW - hence the link to CWops - and within that domain by hams in public service emergency situations. More information about the CWops group can be found [here](#).

⁶ A slight, upward shift in 10M resonance was noticed due to capacitive interaction.

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JUST FOR FUN

"It's a major award, that's what it is!"

Watching "A Christmas Story" is a holiday tradition here at Editorsville. It's always worth a good laugh when the "leg lamp" portion of the story comes up. Having been a rabid chaser of ham-related awards in a previous life, your editor can say first hand that there can be a definite "thrill of winning" not unlike what Ralphie's dad experienced winning that "lamp".

Often called "wallpaper", some ham awards are pretty easily won, the ARRL's Worked All States award comes to mind. Others can be very daunting specially when a particular "endorsement" is sought such as "single band, single mode". Diehard masochists⁷ go for CQ Magazine's Worked All Zones award on 80 or 160 meters CW. Still, there are many, many ham operating awards that will try a ham's skill, and often their patience as well, without driving them into madness. One of the better resources for investigating such awards is [here](#), with another one [here](#). Both are free and appear to be frequently updated.

Jocularity, Jocularity

Mahatma Gandhi, as you know, walked barefoot most of the time, which produced an impressive set of calluses on his feet. He also ate very little, which made him rather frail and, with his odd diet, he suffered from bad breath. This made him a super calloused fragile mystic hexed by halitosis.

ITEMS FOR SALE

Members with items that they'd like to sell (or swap) can be 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 items currently for sale can be found on the Club's website [here](#).

2009 - 2010 TARC OFFICERS

President	Mark Taylor	W5MCT	Taylor.mark.c@gmail.com
Vice President	Art Sharp	K5LXK	Drsars08@gmail.com
Secretary/Treasurer	Alan Luce	KE5RFR	txlflash@aol.com
At Large/Net Control Chair	Don Simonton	K5LOW	K5low@arrl.net
At Large	Clif Sherrod	KD5UCY	clifanshirley@yahoo.com

Anyone interested in joining the Tyler Amateur Radio Club, licensed or not, may contact any of the above Club officers for more information.

⁷ Someone with the tendency to invite and enjoy misery of any kind, especially in order to be pitied by others or admired for forbearance.

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SOME USEFUL LINKS

Content	Link
Tyler Amateur Radio Club	www.tylerarc.org
Ham License Practice Tests	www.qrz.com/p/testing.pl
Contest Information	www.hornucopia.com/contestcal/ http://www.arrl.org/contests/#corral
Hamfest Information	http://www.arrl.org/hamfests.html
Good Study Materials for all Hams	http://www.hamuniverse.com/

CNN DESK

Although I have always been able to start a conversation with strangers (if none are available, a nearby lamp post will do), when it came to talking over the air, I get a terrific case of “mike fright”. This is largely due to an irrational fear that I’ll do something “wrong” and make a fool of myself. Calling the Club’s Monday night net on 12/28 went a long way towards speeding my “recovery”. Thanks to all that checked into that session for their patience, and a special thanks to Don Simonton (K5LOW) for having the courage to add me to the net controller rotation.

Come to the Club meeting, wear your badge, bring a visitor and something⁸to share!

73 to all,

Bob - AG5X & Elaine - KF5CNN

[Co-Editors](#)

ⁱ The WARC bands are three portions of the shortwave radio spectrum used by licensed amateur radio operators. They consist of 30 meters (10.100–10.150 MHz), 17 meters (18.068–18.168 MHz) and 12 meters (24.890–24.990 MHz). They were named after the World Administrative Radio Conference, which in 1979 created a worldwide allocation of these bands for amateur use. The bands were opened for use in the early 1980s.

⁸ News, announcement, joke, suggestion, problem, solution, idea, experience, etc. ... or even snacks!