

# ***Squelch Tales***

A Publication of The San Diego Repeater Association, Inc.

July/August 2012

## *Ahead In **Squelch Tales***

**The June membership meeting** featured Joe Corones N6SZO presenting on T-hunting activities in San Diego. San Diego has a very active group of T-hunters that hold events twice a month with a turnout that keeps growing. This is a way of testing your direction finding skills.

**The Dayton Hamvention** is the largest Amateur Radio event in the country and possibly the world. It has attendance from all over the world and some SANDRA members are regular attendees. Chuck Wood, WD6APP, Gary Richards, N6LRV, and Ray Waldemar, WA6NVL, attended and provide their perspectives.

**The usual features of Board of Directors Meeting Minutes, Announcements and Errata follow.**

### **VHF Mobile and On Foot Transmitter Hunting, Equipment, Techniques, Insights and Examples**

#### **Joe Corones N6SZO**

The June 7, 2012 Membership meeting featured Joe Corones, N6SZO, speaking on hidden transmitter hunting - the T-hunt. T-hunting which is also known as Fox Hunting or more properly Radio Direction Finding (RDF) is an active and growing Amateur Radio educational sport. T-hunting is represented at most Amateur Radio events, from local and section events to the Dayton Hamvention. T-hunting hone the skills that are required to find downed aircraft, injured hikers, disabled boats and unintentional interference (stuck mikes and keys). San Diego has a very active group of T-hunters that hold events on the first and third Saturdays of each month, Joe is a luminary of that group.

T-hunts include both in vehicle hunting and on foot hunting and frequently both on a single hunt. A hunt can be a single transmitter or as many as fifteen or more transmitters. Scoring an event can be time to find the (or all) transmitter(s), most direct route or lowest number of miles to the transmitter(s). There is frequently a time limit on finding all of the transmitters. Transmitters can range from 50 mw to 150 watts, so there is truly a wide variety of skills that need to be mastered to effectively compete in the sport.

The equipment is different for hunting in a vehicle and on foot. The key piece of equipment for T-hunting is a directional antenna and when used with a vehicle, needs to be able to be manipulated from inside the vehicle. This means either a hole in the roof of the vehicle for the dedicated T-hunter or a stable structure that allows an antenna to be manipulated through a side window. Joe described suitable structures to deploy and manipulate antennas without resorting to reducing the trade in value of the vehicle (not to mention incurring the ire of other family members). Most people use 3-5 element yagi's that can be twisted either vertical or horizontal as necessary. One favored design comes from Gene Swiech, WB9COY. [Gene Swiech will be presenting on Advanced Antenna Design at the September 6, 2012 SANDRA membership meeting. See the announcement elsewhere in this issue. - Ed.] T-hunters have used a number of different antenna designs including Quads and phased arrays. Antennas for foot work are primarily small Yagi's such as a tape measure Yagi which is small, light and easily manipulated. T-hunting on foot has the T-hunter walking right up to the transmitter. A rubber duckie antenna on a hand held transceiver can be used by holding the transceiver close to the body to attenuate the signal and direction finding by rotating the body while watching the S meter.

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## SANDRA Members go to Dayton

The Dayton Hamvention is the largest Amateur Radio Event in the country, and the place where new products are launched as well as new radio programs and initiatives started by many Amateur Radio groups (such as the ARRL) and even the FCC. Dayton is fast becoming a Mecca for many Ham that make the trek to Dayton every year. It is not surprising that SANDRA also has a contingent in attendance. This year Chuck Wood (WD6APP), Gary Richards (N6LRV) and Ray Waldemar (WA6NVL) attended and provided the information for this article.

The first challenge of attending a Dayton Hamvention is getting there. The easy way is to fly, however, it is very hard to transport hundreds of pounds of hard collected bounty back from Dayton on the airlines. Driving takes a commitment and a sense of adventure, even in these days of superhighways, as the weather can vary from snow and ice to hot and humid with tornados thrown in for seasoning. Gary (N6LRV) has been going to Dayton every year since 1998. The first year he flew but quickly discovered the difficulty of bringing back equipment on the airlines. After his first trip, he has always driven his truck to allow for plenty of space to return with purchased items. Because he has a truck, he is able to bring items back for friends, on a space available basis. The entire trip is almost 2,200 miles (about the distance to Hawaii) which takes about 2½ days if it is driven for 18-20 hours at a stretch. Some drivers may want to make a vacation of it and take more time to see the sights along the way. There are undoubtedly other modes of transport (Greyhound Bus, railway and private airplane) but they don't seem as popular. The Hamvention is divided between an indoor venue that houses the meeting, seminars, presentations and product launches along with booths for just about every Amateur Radio related organization and an outdoor flea market/swap meet that has literally thousands of outdoor sellers and traders of every kind of equipment and Amateur Radio related item. There is even one seller that displays a World

War II Enigma coding machine. The SANDRA contingent spends most of their time at the outdoor flea market hunting for equipment that can be converted to some kind of Amateur Radio use. Of primary interest is anything that can be used to build or repair repeater equipment. Most repeaters are re-purposed commercial radio equipment, putting this gear at the top of the list. Test and calibration equipment is also high on the acquisition list because all radio equipment needs to operate within established tolerances. The sheer size of the flea market/swap meet guarantees that a super wide variety of equipment will be available for sale or swap and nearly everything that someone is interest in will be available.



**Dayton Arena-** the area outlined in black below the arena is the Flea Market/Swap meet.

Nearly every Amateur Radio group will be represented at dayton so they usually hold at least one group meeting during the convention. This is the place to attend an Amsat meeting or a FISTS CW meeting or any other group meeting that one has an interest in. The venue itself is older and looks a lot like a sports arena with added smaller spaces. It takes a very long time to make your way through the venue and it can't be done in a single day. All of the manufacturers of Amateur Radio gear have booths that are manned (or women'ed) with technical people not just sales people. It is the one place where you have the opportunity to talk to the designers of

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**T-hunting – Continued.**

The problem with this technique is that it takes longer, giving up precious time to your competitors.

Radios used for T-hunting in vehicles needs to have an S meter function and an attenuator (an external attenuator can be used). T-hunting is primarily done on 2 meters so a mobile 2 meter radio is ideal. The attenuator is used to attenuate the signal as the vehicle gets closer so that a null can still be detected. Attenuation can also be done by switching to the third harmonic of the signal, if the radio has the coverage or sliding off frequency. Radios for foot work are typically hand held transceivers.

Hidden transmitters can vary from 50 mw transmitters built into an Altoids box to 150 watt units that we would all like to have in our shacks. One T-hunt featured a 50 mw transmitter and a 14 element beam located on Mt. Laguna, which transmitted a signal to T-hunters in San Diego. High power transmitters can be difficult to find because as you get close, the signal reflects off of the ground and many structures confusing its direction.



**T-hunting Vehicle** configured with a quad that can be manipulated from the inside.

T-hunting in vehicles is normally done as a team of two, one to drive undistractedly and one to operate the antenna and radios. A key point in T-hunting is to get the polarity correct, particularly with the low power transmitters, because there is

a 20 db penalty in signal strength for a 90° linear polarity mismatch.

T-hunters in San Diego have formed the San Diego T-hunt group with a web site url of <http://www.sdthunt.com/> giving the details for upcoming events and the results for past events. Additional information can be obtained from Joe [jcorones@gmail.com](mailto:jcorones@gmail.com). {SQ}

**Dayton – continued.**

equipment and get real answers to questions of design and what effect a modification may make to equipment operation. This is also the place to give input on what you like and want to see in future generations.

Weather can also effect the Hamvention itself, it normally rains during the Hamvention (this year it didn't rain due to the drought that has struck the mid-west) which turns part of the outdoor area into a swamp. However, rain is not the only water hazard in the outdoor flea market, two years ago a piece of heavy equipment broke a sewer line turning a portion of the outdoor area into a sewage swamp. Weather issues have not gone unnoticed by the organizers, years ago Dayton was held in early April but instead of rain snow was guaranteed to be present on at least one day and maybe more. Moving it to May substituted rain for snow.

A successful visit to the Dayton Hamvention requires some preplanning. Hamvention is big with many programs and seminars, know what you want to include and schedule your important visits. Talk to someone that is a regular for hints on how to best take in as much as possible. Hamvention is big you will have friends and radio acquaintances in attendance, make plans in advance to meet or you may never run into them. Traffic in and out of Hamvention is difficult but regulars have a system for getting in and out efficiently. Talk to a regular for hints. Stay in tune with the weather so that you don't waste time hunkered down in the Flea Market during a rain storm when you could have been using the time at a seminar. The SANDRA contingent goes several days early so that they can spend extra time with friends that they only see once a year at Hamvention. {SQ}.

## **Announcements**

### **September 6, 2012 - Membership Meeting**

**Eugene Swiech WB9COY**

#### **Advanced Antenna Design – Part II**

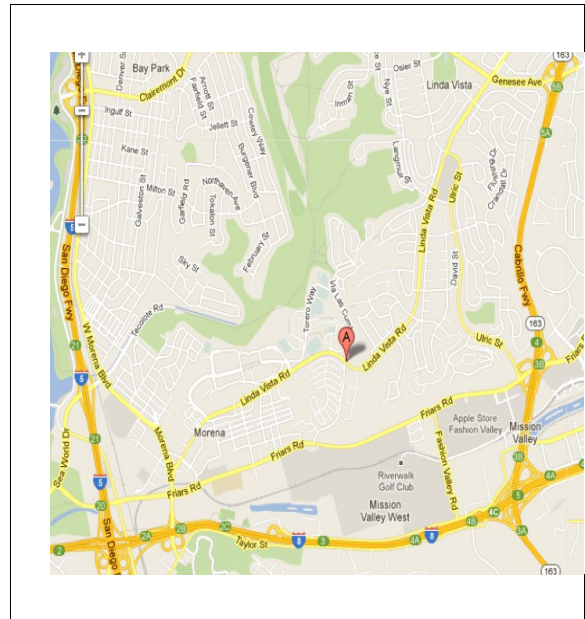
This is a continuation of the presentation Gene did one year ago. It will be a very interesting meeting for anyone interested in antenna building.

#### **Meeting Location:**

**County Department of Educational**

**6401 Linda Vista Road, San Diego**

**Room 306**



#### **Also At This Meeting:**

#### **Nominations of SANDRA Officers for 2013**

**Know Any SANDRA Members With a Desire to Volunteer as an Officer**

**Please nominate yourself or another as a SANDRA Officer**

**Support Your Organization**

## Board of Directors Minute

SANDRA Board Meeting  
May 3, 2012

The meeting was called to order at 7:00 pm by President John Austin, K6RLV.

Minutes: Tom, N6JOJ made motion **120503-01** to approve the minutes submitted. Ken, WA6OSB seconded the motion. The motion **120503-01** was passed unanimously.

Treasurer's Report: Treasurer Ken, WA6OSB read the Treasurer's Report.

Membership: Bob, W2IRI was absent for the meeting, but his report to the board indicated we have 277 members.

New Business: John, K6RLV stated that our June 7<sup>th</sup> Membership meeting will have the presentation on San Diego T-Hunting by Joe, N6SZO.

Technical Committee Report: No changes, to report submitted by John, K6RLV

Working with Larry, K6AIL, we have been unable to find any record of who we dealt with at Sharp Hospital when previous donations were made. Alex, WB6DTR will be checking with contacts at Sharp Hospital to obtain a name we can deal with personally for our donation.

Our June 7th meeting will be in room 306. The presentation is: VHF MOBILE & ON-FOOT TRANSMITTER HUNTING (T-HUNTS), EQUIPMENT, TECHNIQUES INSIGHTS & EXAMPLES. By: Joe N6SZO & Joe KE6PHB

Bayard, K6GAO made motion **120503-02** to adjourn the meeting at 7:06 pm. Chuck, WD6APP seconded the motion. Motion **120503-02** passed unanimously

Respectfully submitted for,  
Barbie Flinn WA6URS  
Secretary

John Austin, K6RLV

### **Errata:**

This section of *Squelch Tales* provides corrections and updates on previous articles. This section relies on feedback from the readers, so please send email your comments to [squelchtales@wb6wlv.com](mailto:squelchtales@wb6wlv.com) or via post to SANDRA, Inc. P.O. Box 81103, San Diego, CA 92138.

This issue of *SQ* is an abbreviated issue because August is typically a quiet month for SANDRA. It is also a quiet month for the membership as is evidenced by the lack of mail. The format of this newsletter will be changing over the next few issues which we hope is an improved look. Stay tuned as we attempt to refine the look and readability of *Squelch Tales*.



SANDRA, Inc.  
 San Diego Repeater Association  
 P.O. Box 81103  
 San Diego, CA 92138

**SANDRA NETS**

Sunday 8:00 P.M. Mt. Otay Repeater  
 Wednesday 7:30 P.M. Mt. Laguna Repeater

**GUIDELINES SUMMARY**

SANDRA, Inc. operates their repeaters for service in the San Diego area. The policy of the organization is that the repeaters are available for all licensed amateur radio operators to use so long as applicable rules and regulation are observed, whether members of SANDRA or not.

**SQUELCH TALES**

SQUELCH TALES is published bi-monthly by the San Diego Repeater Association (SANDRA, Inc.), a corporation dedicated to the promotion of amateur radio. Distribution is free to members.

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The SANDRA membership meets the first Thursday in the Months of March, June, September and December. Meetings start at 7:00 P.M. and are located at the San Diego County Education Center, 6401 Linda Vista Road, San Diego. Board meetings take place on the first Thursday of January, February, April, May, July, October and November. All SANDRA members are encouraged to attend.

<b>Callsign</b>	<b>Location</b>	<b>Input</b>	<b>Output</b>	<b>Callsign</b>	<b>Location</b>	<b>Input</b>	<b>Output</b>
WB6WLV	Mt. Otay	146.040	146.640	WB6WLV	Mt. Laguna	444.500	449.500
WB6WLV	Mt. Otay	222.460	224.060	K6GAO	Ho-Pass	144.680	145.280
WB6WLV	Mt. Otay	444.200	449.200	W6SS	Lyon's Peak	146.865	146.265
WB6WLV	Mt. Otay	1270.300	1282.300	K6AIL	Sharp Hospital	147.285	147.885
WB6WLV	Mt. Laguna	147.750	147.150	WB6WLV	San Diego	442.320	447.320
WB6WLV	Mt. Laguna	222.600	224.200				

**All SANDRA repeaters use PL 107.2**