W6SBA SOUTH BAY AMATEUR RADIO CLUB

SPECIAL SERVICE CLUB

June 2013

ARCOver

A Community Service Organization Dedicated to Amateur Radio Since 1970

In this issue:

2013 FIELD DAY

June 21-23

Torrance Memorial Medical Center
Parking Lot – Top Level

E-mail: W6SBA@arrl.net

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Website: http://www.w6sba.org

President's Message

Hello W6SBA,

First off, I'd like to send out a special thanks to Ray Wolfbrandt - WG6V for graciously volunteering his airplane hanger, which we used for the club antenna building event. Since soldering was required, Ray's hanger at Torrance Airport was the perfect location for members to practice putting their homebrew antennas together. He had several tables set up, tools needed for assembly, and even arranged for some shuttles to get members to/from the airport entrance to his hanger.

The event was a huge succes! We had a great turnout and everybody produced a working antenna! Most of them were created for the 220 band, but a few decided to create 2m antennaa. Planning the desired transmit frequencies and calculating the proper antenna length was a good exercise for our brains! We learn by doing, and experimentation is what ham radio is all about!

I'd also like to thank Bill Van Datta - KQ6Z for building several pre-made kits to club members which made antenna assembly a snap! We also had the new Comet antenna analyzer (CAA-500) on hand to measure the SWR on the 220 band. (The ubiquitous MFJ-259 analyzer won't do 220).

CLUB BUSINESS: Update on the old radios. The council decided to hold a raffle for the Kenwood TS-440 radio. Each ticket will cost $10 and the drawing will be held at the August club meeting. Since many members typically go on vacation during the summertime, the council felt we needed to extend the raffle for 2-3 months to make sure every member had at least one chance for buying raffle tickets.

This means you will have 3 months to buy tickets (June, July and August). There is no limit to the number of tickets you can buy, so if you're in the market for a nice HF rig, you have a chance to pick this rig up for a song!

The other retired radio is the Yaesu FT-990. The council monitored several eBay auctions for FT-990 radios and the average selling price (for working radios) was $700-$900. Since eBay charges a commission on each item sold, the net profit would be at least $600. As a result, the council voted to let any interested club member (in good standing) purchase the radio for $500 out the door. Keep in mind, both radios are being offered as-is, so there is no warranty. Interested parties should contact our Secretary, Joe. Email is preferrable since it has a date/time stamp. In the event multiple people want to buy the radio, the first responder will have dibs.

SOME VERY SAD NEWS: In the event you missed the last club meeting, I wanted to let you know that we lost a dear friend, Bob Avakian - WA6KZF. Bob has been a club member for 20+ years, and has been involved with many ham events. In additional to serving on many club activities, he also found time to volunteer as a TARA Board member and Treasurer, and was extremely involved with his church. Bob was a loving, caring person and was a gracious human being. A memorial service for Bob will be held on Saturday, June 22 at 11am at the Hope Chapel, 2420 PCH (near Artesia Blvd), Hermosa Beach, CA 90254. He will be missed! Rest in Peace - SK.

We also lost Charlotte Lobb, XYL to Chuck Lobb (KN6H). Charlotte was a loving person and I will miss her dearly. Char made me feel like family. Many of time, she invited me over for a home cooked meal, and then provided an engaging after dinner conversation/debate. Her quick wit was always stimulating and made me laugh. She was also a successful romantic writer and published many novels. In addition, she performed stand-up comedy and entertained the club not too long ago at our Christmas party). Char was just a wonderful friend, and I am heart-broken over losing her.

But I know she is in a good place looking down on us, smiling. We will miss you Char! Rest in peace.

Until next time, this is Alex saying 73.

CLUB OFFICERS FOR 2013

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What is Field Day?

ARRL Field Day is the single most popular on-the-air event held annually in the US and Canada. On the fourth weekend of June of each year, more than 35,000 radio amateurs gather with their clubs, groups or simply with friends to operate from remote locations.

Field Day is a picnic, a campout, practice for emergencies, an informal contest and, most of all, FUN!

It is a time where many aspects of Amateur Radio come together to highlight our many roles. While some will treat it as a contest, other groups use the opportunity to practice their emergency response capabilities. It is an excellent opportunity to demonstrate Amateur Radio to the organizations that Amateur Radio might serve in an emergency, as well as the general public. For many clubs, ARRL Field Day is one of the highlights of their annual calendar.

The contest part is simply to contact as many other stations as possible and to learn to operate our radio gear in abnormal situations and less than optimal conditions.

We use these same skills when we help with events such as marathons and bike-a-thons; fund-raisers such as walk-a-thons; celebrations such as parades; and exhibits at fairs, malls and museums — these are all large, preplanned, non-emergency activities.

But despite the development of very complex, modern communications systems — or maybe because they ARE so complex — ham radio has been called into action again and again to provide communications in crises when it really matters. Amateur Radio people (also

Objective of Field Day

To work as many stations as possible on any and all amateur bands (excluding the 60, 30, 17, and 12-meter bands) and to learn to operate in abnormal situations in less than optimal conditions. Field Day is open to all amateurs in the areas covered by the ARRL/RAC Field Organizations and countries within IARU Region 2. DX stations residing in other regions may be contacted for credit, but are not eligible to submit entries.

W6SBA Field Day Schedule

Friday, June 21st: 5:00 p.m.
Antenna Set up on top of TMMC parking garage

Saturday, June 22nd: 8:00 a.m.
Field Day Set up

Saturday, June 22nd: 11:00 a.m.
Field Day Starts

Sunday, June 23rd: 11:00 a.m.
Field Day Ends; Tear Down Begins

How To Prepare For Field Day

- **Bring warm clothes — plan to wear layers and bring an extra warm jacket because the evenings do get cold**
- **Bring sleeping gear if you plan to stay all night**
- **Bring your radio toys to use and share with others.**
- **You might want to throw in some tools in case you need to help fix something**
- **Most of all plan to bring a BIG appetite for the good grub that is available for a very affordable price.**
  - ⇒ **Pre-sale meals (3 meals for $25; 1 meal for $10) RSVP was due to Ray by 6/1.**
  - ⇒ **"Day of meals" possibly available after paid reservations have been filled.**
    - **Breakfast: Bacon, eggs, juice, coffee**
    - **Lunch: Sandwiches**
    - **Dinner: Tri-Tip w/baked beans and more.**

(Looking for volunteers to help cook breakfast — contact Ray WA6OWM)

ALL OF THESE RF CONNECTORS WILL BE OPERATING AT FIELD DAY – WHAT DO YOU KNOW ABOUT THEM?

PL259 Connectors

PL259, or UHF connectors are generally usable through what is now known as the VHF and HF frequencies and can handle RF power levels over one kilowatt. "PL-259" refers to one specific mechanical design, but the term is often used for any compatible UHF cable plug. The thread is 5⁄8 inch 24tpi UNEF standard. Other UHF connectors with a similar, metric, thread have been produced. The center conductor jack on the SO-239 will also accept a 4 mm banana plug. There is variation between manufacturers with the choice of dielectric, the PTFE types being favored where low loss is desired. The average power handling of the PTFE versions is essentially set by heating of the center pin, and is therefore frequency dependent, as the RF resistance rises the skin depth falls. At low frequencies the power handling is rather better than that of the similar sized N connector. The UHF connector is the most common connector in amateur radio applications up to 150 MHz. The silver-plated version with Teflon dielectric is used in UHF applications up to 450 MHz for the 70 cm band.

UHF connectors have been replaced in many applications in designs requiring a more uniform impedance over the length of the connector, such as the N connector and the BNC connector, but they are still widely used in amateur radio, citizens' band radio, and marine VHF radio where robustness and ease of use are more important than a small mismatch. The reasons for the popularity of the UHF connector are its ease of assembly. While crimp connectors exist, the solder able screw-on connector is more common because no expensive crimping tools are required. The connector is not suitable for outdoor applications by itself but can be made weather resistant with self adhesive silicone tape.

N Type Connectors

The N connector (in full, Type N connector) is a threaded RF connector used to join coaxial cables. It was one of the first connectors capable of carrying microwave-frequency signals, and was invented in the 1940s by Paul Neill of Bell Labs, after whom the connector is named.

Originally, the connector was designed to carry signals at frequencies up to 1 GHz in military applications, but today's common Type N easily handles frequencies up to 11 GHz. More recent precision enhancements to the design by Julius Botka at Hewlett Packard have pushed this to 18 GHz. The male connector is hand-tightened (though versions with a hex nut are also available) and has an air gap between the center and outer conductors. The coupling has a 5/8-24 thread. Amphenol suggests tightening to a torque of 15 inch-pounds (1.7 N·m), while Andrew Corporation suggest 20 inch-pounds (2.3 N·m) for their hex nut variant. Since torque limit depends only on thread quality and cleanliness, whereas the main operational requirement is good RF contact without significant steps or gaps, these values should be seen as indicative rather than critical.

version is primarily used in the infrastructure of cable television systems. Connecting these two different types of connectors to each other can lead to damage due to the difference in diameter of the center pin. Unfortunately, many type N connectors are not labeled, and it can be difficult to prevent this situation in a mixed impedance environment. The situation is further complicated by some makers of 75 ohm sockets designing them with enough spring yield to accept the larger 50 ohm pin without irreversible damage, while others clearly do not, and expect users to segregate their connectors and adaptors. In general a 50 ohm socket is not damaged by a 75 ohm pin, but the loose fit means the contact quality is not guaranteed.

The 50 ohm type N connector is favored by enthusiasts who create their own antenna systems. The enthusiasts have settled on using the N connector as a standard connection for homebrew UHF antennas. The N connector holds up well in adverse weather environments. Although, the N connector has internal sealing gaskets to prevent moisture from entering the RF connections, they must be sealed externally to prevent water intrusion at the cable entry points. It's common to find N connectors being used on repeater antennas at high mountain top elevations. It's also now common to find 50Ω N connectors on mobile amateur radio transceivers operating in the UHF bands.

BNC Connectors

The connector was named after its bayonet mount locking mechanism and its inventors, Paul Neill and Carl Concelman. Neill worked at Bell Labs and also invented the N connector; Concelman worked at Amphenol and also invented the C connector.

The BNC connector (Bayonet Neill–Concelman) is a miniature quick connect/disconnect RF connector used for coaxial cable. It features two bayonet lugs on the female connector; mating is achieved with only a quarter turn of the coupling nut. BNC's are ideally suited for cable termination for miniature-to-subminiature coaxial cable (e.g., RG-58, 59, to RG-179, RG-316). They are used with radio, television, and other radio-frequency electronic equipment, test instruments, video signals, and was once a popular connector for 10BASE2 computer networks. BNC connectors are made to match the characteristic impedance of cable at either 50 ohms or 75 ohms. It is usually applied for frequencies below 4 GHz and voltages below 500 Volts. Similar connectors using the bayonet connection principle exist, and a threaded connector is also available.

The different versions are designed to mate with each other, and a 75 ohm and a 50 ohm BNC connector which both comply with the 1978 standard, IEC 169-8, will mate non-destructively. At least one manufacturer claims very high reliability for the connectors' compatibility.

At frequencies below 10 MHz the impedance mismatch between a 50 ohm connector or cable and a 75 ohm one has negligible effects. BNC connectors were thus originally made only in 50 ohm versions, for use with any impedance of cable. Above this frequency, however, the mismatch becomes pro-

When is a Metal Pipe in the Ground not Grounded?

(If selecting a pipe to ground your antenna, make sure it's actually grounded!)

Article written by Cliff d'Autremont, (permission to publish given by Cliff)

My study of "ground" began when I was 12 years old. My brother Dick (KBØKJV) is 12 years older than I am and he was working for AT&T Long Lines in Davenport, Iowa where we grew up. I would absorb as much telephone, radio, electricity and electrical wiring education as I could from him.

One particular facet that he would talk about is "ground". Specifically, he said that ground is a conductor. Whoa, say what? Dirt conducts? He told me that when he was my age he strung a single wire from our house across an empty lot to a neighbor's house for a telegraph system with a key and a sounder on each end and a battery, using ground as the return path, same as telegraph systems have done since the 1800s.

I had two old handsets and a battery and scrounged enough wire to run a single wire from my house to a neighbor kid's house and we tried it out, one wire and a ground. Sure enough, it worked, although it was rather noisy, but we could talk. I concluded that ground indeed conducts. Albeit noisily.

So, if ground conducts, how much resistance is there? Dick had given me a nice VOM to encourage my interest in electricity. I took it outside and poked the probes into the dirt about 6 feet apart and measured the resistance of ground. About 1000 ohms. (Only about an inch of metal on each probe stuck in the ground.)

Fast forward to a few months ago when I decided to put up an OCFD (Off-Center-Fed-Dipole) wire antenna. I would take down my 30-foot TV mast that supported a two-meter antenna and put up a heavier pipe and this time pay attention to grounding, both for lightning/electrical fault protection and RF grounding.

First thing I noticed was that the gas pipe wasn't strapped to the nearby electrical panel ground rod, which had been recently installed with the new solar panels. So I probed between the gas pipe and the ground rod to check for continuity and found not only that it wasn't connected, but I measured about 600 millivolts between them. The solar panel electrician said that gas pipes are strapped to electrical ground. I went to the other side of the house where there is an electrical sub-panel for the spa and found that the electrical panel and the gas pipe were a dead short. What gives?

Scott, N6LEM, solved the mystery for me. Buried gas service pipes (mains) have insulation wrapped around them to isolate from ground and they also have a voltage applied to prevent galvanic corrosion, which occurs when two dissimilar metals are in contact, or when a metal is in contact with earth. Wikipedia has two nice articles, one on Galvanic Corrosion and one on Cathodic Protection, and in particular, buried pipes. Mystery solved.

As it turns out, there is electrical isolation between the buried insulated gas pipe from the street, and the gas pipe into the house. The isolation takes place at the gas meter. When I measured the house side gas pipe to the ground rod, I measured a dead short. For the mains service side to the ground rod, I measured 600 mV.

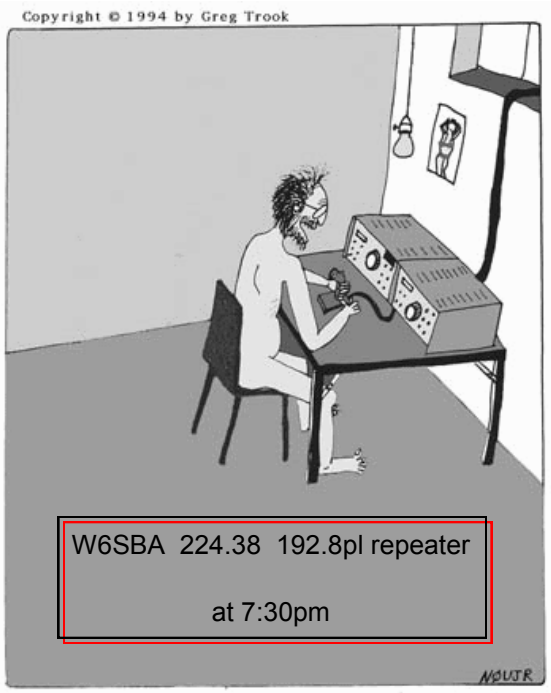
An internet search turned up a government organization called the Pipeline and Hazardous Materials Safety Administration which is responsible for gas pipe safety. Their guidelines on corrosion control of gas pipes can be viewed at this link. http://phmsa.dot.gov/staticfiles/PHMSA/DownloadableFiles/smalllpgas-chapt8.pdf

Indeed, they specify insulating and how much voltage gas companies are to put on the buried gas pipes and how to do it, using galvanic cells (batteries) that give themselves up to corrosion instead of the pipes. Gas companies are required to check the voltages and isolation quarterly, replacing cells as necessary.

Energizing gas pipes? Makes me nervous. But they obviously know what they are doing. I hope.

REMEMBER THURSDAY NIGHT NET…

YOU NEVER KNOW WHAT YOU MIGHT MISS!



"Gentlemen...tonight we will begin the Malicious Interference Net with a round of anonymous whistling, followed by free style profanity. Remember...no call signs!"

AMATEUR RADIO SUPPORTS CARIBBEAN TSUNAMI EXERCISE

On Wednesday, March 20th, 2013 at 9:03 AM, the Puerto Rico Emergency Management Agency (PREMA, Agencia Estatal para el Manejo de Emergencia y Administración de Desastres, AEMEAD) again participated in the now yearly exercise Caribe Wave/Lantex 13, in conjunction with the Puerto Rico Seismic Network (Red Sismica de Puerto Rico) and other agencies. The scenario was a tsunami situation, based on an earthquake that had its epicenter 57 miles north of the island of Aruba.

ARRL ARES E-Letters May 15, 2013

ARRL Ares is active in our own area. The above piece is just a small part of the ARES network all across our country. We need to check this out and perhaps have you look at this and see if you to might want to join this National Emergency Preparedness organization.

A net every Wednesday evening is at 7:00pm on 144.450 sim-

Once our HF rig is attached to our PC we will need a program to allow capture and decoding of the digital signal, an if the interface is working, a way to transmit and have an actual QSO. Fortunately there are many such programs easily available for free trail run or for a fairly nominal fee. All of these can be accessed easily thru Google or any other browser.

They include:

Digipan- The workhorse and easiest to use offering BPSK 31 and 63 with intuitive startup.

Airline Express– A turbo version of Digipan with the addition of RTTY and higher speeds including PSK 125 and 250.

Fldigi– Includes all standard and most of the exotic modes. Full help document included.

MixW– versions 2.2 and 3.1– Also with all modes. Small fee after trial run requested.

Ham Radio Deluxe– Has all the bells and whistles. Moderate learning curve even for the gifted, which I am not. Traditional v 5.24 is still free and supported and the pay version 6.0 is reportedly debugged with luxurious options.

WSPR-Joe Taylor K1JT's masterpiece of work. Our station becomes a beacon at sub QRP power and a propagation map is quickly generated allowing a quick assessment of band conditions and our station capability. Not for QSOs—only station PWR and call signs are exchanged.

JT65-HF-An extended version of WSPR with limited QSO capacity.

CW Skimmer-Decoder for the original digital mode, CW. Identifies call signs on a crowded band. Poor substitute for learning CW however.

SDR#-Decoder for most dongles including the DVB-T USB receiver dongles and their HF converters as well as the soft rock series, fun cube dongles and more-for receive only.

These are only a few and should be more than enough to either get started or add to your program library. Most will have eventual upgrades and all will involve some of the fiddling and exhortations that make ham radio such an engaging hobby.

NOTES FROM THE SECRETARY - JOE-WB6MYD

e-mail - jlanphen@ca.rr.com· 310-328-0817

1. Attendance drawing: Yes we once again had a winner at our May 16 meeting. Linda-KJ6UMK had her name drawn and was present. She therefore was the lucky winner of the 20 dollar kitty. Congratulations Linda. The kitty for the June 20th meeting will be 20 dollars.

2. Thank you: Paul-KK6BY made an excellent presentation on the Arduino projects which was fantastic. Every indication is that a umber of our member have started their projects thanks to this presentation. Thank you Paul for this fascinating new project which can and will hopefully go on and on. Your explanation of how some of these work for was right on.

3. Torrance Armed Forces Parade: While our parade was reduced to just one Division with a total of 50 units we still had the parade honoring our Veterans. It was still very impressive even though the large hardware items were missing. We wish to thank all of you guys helping setting the units in their proper order your help was greatly appreciated. The following members supported the 2013 TAFP:

Ray-WA6OWM as net manager. Alan-KG6ZPL and Joe-WB6MYD as net control operators and next was Jerry-KJ6JJ, Tom-KG6SFR,James-KI6UPL, Marty-KJ6TSK, Tom-KI6RC, Brian-KI6ERR and Scott-N6LEM. All went very smoothly and no problems reported with only one unit missing made this a snap. Thanks again everyone lets hope we will have another parade next year.

4. Radio Raffle: I am not going to say very much about this since Alex will use the Presidents message to explain. I just want to make sure everyone will have an equal shot at this project. Please check "The Presidents Message page" for more information. You can't just pass up the opportunity for the Kenwood FT 440AT.

For the price of a ticket or more. Be sure to read all the details.

5 Echo link: Those of you monitoring the W6SBA repeater I am sure have heard the recent activity about Echo link. This is a bit of new mode of staying in touch if you will. We wish to thank Jerry-KJ6JJ and Ray-WA6OWM for the research and setting up so testing this mode to make it work has just about finished. As to what we're going to do with it is another story. For now it is limited to a few of our members to see if it will work and we ask your patients during this time. Once all safety issues, legal and amateur radio wise, are talked about with some consensus are ironed out we will let you know so all SBARC members wanting to use this will have access and or hear more about it. Thank you.

6. W6SBA repeater: Proper protocol using any repeater is as we all know is an must. We all need to remember that repeaters (open) are for use by the amateur radio operators in its coverage area. In addition most repeaters serve as emergency communication systems. What this means is that all repeaters have also the function to function as emergency traffic relay stations if needed. This requires that this must be kept in mind while using the any repeater. I am some what concerned about this in that some of our operators fail this keep this in mind. You must allow short times between transmissions, don't just pick it up after the other operators drops it, wait

CALENDAR

Council Meeting - **1st Wednesday** of the month
Call Joe - WB6MYD (310) 328-0817

Club Meeting - 3rd Thursday of the month
June 20, 2013 - 7:30 p.m.
Torrance Memorial Med Center
West Tower, Room A

Club Nets - **W6SBA WEEKLY NET**
Every Thursday @7:30pm
(except the night of club meetings)
PVUSD EMERGENCY NET
1st Tuesday of the month
09:30 Hours on the W6SBA repeater

TRW Swap Meet Saturday,
June 29, 2013, 7-11 a.m.

VE Session - Contact: Joe WB6MYD
Phone: (310) 328-0817
jlanphen@ca.rr.com or **w6sba@arrl.net**

Social Event - Contact: Joe WB6MYD
Phone: (310) 328-0817
jlanphen@ca.rr.com or **w6sba@arrl.net**

Answers to Mr. Wave's face on page 5: Eyes = Amplitude modulation;
Mouth = Frequency modulation

CLUB SERVICES

Awards Manager (HF/VHF)	Cliff - K6LH
Health & Welfare	Joe - WB6MYD
Swap Meet Chair	Joe - WB6MYD
VE Test Liaison	Joe - WB6MYD
VE Test Sessions	Joe - WB6MYD
Webmaster	Alex - KD6LPA
Editor	Glenda - KF6QFE
Proofreader	Alex - KD6LPA

South Bay Amateur Radio Club Repeater

224.38 MHz ·PL - 192.8 Hz Offset -1.6 MHz
(See Calendar for Weekly Net Times)

NEWSLETTER SUBMISSION

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W6SBA

A COMMUNITY SERVICE ORGANIZATION