RF

VOL. LIV NO. 2 P.O. Box 3454, Tustin, CA 92781-3454 February 2013

The PREZ Says:

Greetings to all! Over one month has passed since the predicted end of the world by some obscure calendar and we are still here…. I think we are safe now… So we have an opportunity to enjoy the rest of the year with great plans and activities. Of course, Field Day is the big one and I reckon it's in good hands with the two co-chairs Dino and Bob, but we plan to participate in many other activities like the Baker to Vegas race, Antennas at the park (or beach), open houses, parties and picnics and a special September anniversary celebration. We also plan to do a group visit to a television transmitter plant, so stay tuned for more details. Many thanks to the Board of Directors for doing a tremendous job to get all these activities scheduled. Last month we had a great turnout for our General Meeting, with an excellent video presentation and the new and exciting "5 minutes of OCARC History" by our VP, that will continue for several meetings. We hope to have this presentation at every one of the meetings for most of the year. I know that the VP is working tirelessly at this and we will not be disappointed, so Happy Valentines Day and I'll se you all at the Meeting.

73 DE AF6CF

"

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THE ORANGE COUNTY AMATEUR RADIO

Club Dues:

Regular Members…$20
Family Members*…$10
Teenage Members…$10
Club Badge**…$3

Dues run from Jan. through Dec. & Are prorated for new members.
* Additional members in a family of a regular member pay family rate up to $30 per family
** There is a $1.50 charge for the badge being mailed to you.

ORANGE COUNTY AMATEUR RADIO CLUB – W6ZE

2013 Board of Directors:

President:
Nicholas Haban, AF6CF
(714) 693-9778
af6cf@w6ze.org

Vice President:
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Robbie Robinson, KB6CJZ
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W6ZE club license trustee:
Bob Eckweiler, AF6C
af6c@w6ze.org

Club Historian:
Bob Evans, WB6IXN
wb6ixn@w6ze.org

RF Editor for February:
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Assistant WEB Master:
Bob Eckweiler, AF6C
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ARRL Awards Appointee:
Arnie Shatz, N6HC
n6hc@aol.com

John Schroeder, N6QQ
n6qq@w6ze.org

OCCARO Delegate:
Paul Gussow, W6GMU
w6gmu@w6ze.org

MONTHLY EVENTS:

General Meeting:
Third Friday of the month
at 7:00 P.M.
AMERICAN RED CROSS
601 N. Golden Circle Dr.
(Near Tustin Ave. & 4th St.)
Santa Ana, CA

Club Breakfast:
Second Saturday of the month
at 8:00 am
Jaugerhaus
2525 E. Ball Road
(Ball exit off 57 freeway)
Anaheim, CA

Club Nets (W6ZE):
7.086 ± MHz CW OCWN
Sunday 9-10 a.m.
John WA6RND, Net Control

28.375 ± MHz USB
Wednesday 7:30-8:30 p.m.
Bob AF6C, Net Control

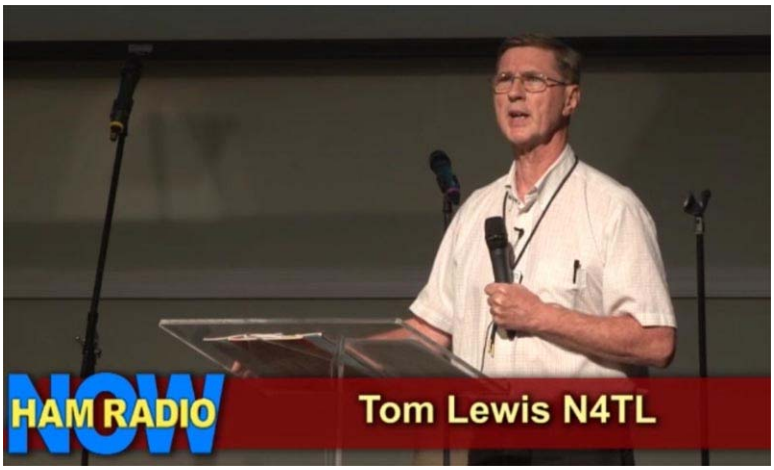
146.55 MHz Simplex FM
Wednesday 8:30-9:30 p.m.
Bob, WB6IXN, Net Control

OCARC General Meeting Minutes
January 18, 2013

The OCARC General Meeting was held at the Red Cross Complex on January 18th 2013. The meeting was called to order at 6:59pm.

Announcements: Antenna rising in Orange on January 19th.

Presentation: Grounding for Lightening Protection – Tom Lewis N4TL video produced by HamRadioNow



Tom Lewis - N4TL does not claim to be an expert in the field but for not being an expert he has done his share of research and has had some personal experience with lighting strikes. From this background Tom laid out some guidelines and referred us to authoritative sources like the Nation Fire Protection Association, ARRL as well as books by William Raison and Ken R. Rand.

The book “Lightning protection and grounding solutions for communication sites” by Ken R. Rand can be download at http://menters.rennlist.org/warren/LightningProtectionAndGrounding.pdf

ARRL website has good material and it can be found here: http://www.arrl.org/lightning-protection

National Fire Protection Association, NFPA 780
Standard for the Installation of Lightning Protection Systems 2004 Edition found here:

http://uqu.edu.sa/files2/tiny_mce/plugins/filemanager/files/4310333/Appendix_-_NFPA_Standard_780_2004.pdf

Some factors to keep in mind that while lightning is not common in our corner of “6” land it is estimated that there are 22 million lightening strikes in US annually.

Some of Tom’s recommendations are as follows:

A properly grounded tower or antenna support

A good ground system – not just a single ground rod

OCARC General Meeting Minutes
January 18, 2013 – Continued…

All site grounds connected together

All conductors entering the ARS grounded to single point ground

Surge protected AC line

All ARS conductors surge protected

Dwelling Perimeter ground ring

The video can be reviewed at http://arvideonews.com/hrn/HRN_Episode_0015.html

Tom's notes referred to in the video are available here:
http://arvideonews.com/hrn/HRN_0015_W4TL_Reference_Handout.pdf (also see Page 18 in this RF newsletter)

After the Tom Lewis video Tim Goeppinger –N6GP presented us with a "Historical 5 minutes of Hams in Orange County". Tim's presentation was on the massive 1938 Orange County Flood. He was replete with information like that a group of 9 hams provided communication services from the AT&T phone exchange building in Anaheim. Also the president of our club at the time Earl Moore operated an emergency net out of offices in Los Angeles. Ham's were there when needed most as they often are!

A Break was called for at 8:15pm. The Business Meeting was called to order at 8:30pm

Field Day – Co-chairs Dino – KX6D and Bob - AA6PW are holding a Club wide planning meeting Friday January 26th, 2013 at 7:00pm. The field day site at Walter Knott School in Buena Park is secured once again. Bob and Arnie – N6HC are overseeing CW operations. Field Day 2013 is the 4th weekend in June, however this year that is not the last weekend in June. Insurance Rider for Liability needs to be obtained and provided to school district officials.

OCARC General Meeting Minutes
January 18, 2013 – Continued…

Officer reports

VP – Tim N6GP - Next month's presentation is by Chip Margelli K7JA New Geometries for Yagi Beam Antennas - The Story Behind the InnovAntennas' LFA and OP-DES Yagi – Straight Elements don't work right! Chip is representing InnovAntennas.

Tech – Bob AF6C- the Archives are working correctly on our website now.

Treas – Ken W6HHC - Dues are currently due and if not received from a member before March 31st then that member will be removed from the the club roster.

2 visitors – Ron Knovel who is interested in becoming a Ham and Loren - KE7RXD now retired to Southern California from Washington State. 38 members were in attendance.

Good of the Club – Ken W6HHC presented a picture of AA6GE – operates 160 meter with a special antenna on his Ford Excursion. Some members report that they have seen AA6GE regularly operate from Bolsa Chica Marsh parking area.

The meeting adjourned at 8:59 pm.

February Meeting Speaker
Chip Margelli, K7JA

Chip will be our speaker at our February meeting on the 15th. He will be discussing the story behind the InnoVAntennas LFA and OP-DES Yagis. Come hear about the "New Geometries for Yagi Beam Antennas!"

ATTENTION MEMBERS!

Do you know a fellow ham that would be interested in joining OCARC? Do you have a friend that is curious about ham radio and wants to learn more about our hobby? Why not invite him or her to one of our exciting monthly meetings?!?! The meetings are fun, informative and entertaining. Check out the upcoming events page in this newsletter to see the exciting speakers we have lined up for the next couple of months. Don't forget about the great drawing prizes too. So bring a visitor to one of our meetings, and help **your** club expand!

Make sure to inform your friends of our club's website, which is always kept up to date. Information on club meetings, activities and our newsletter archive make it a worthwhile site to surf! http://www.w6ze.org

TechTalk106
The Lightning Protection Process
Part 2 of 4 Driving the Ground Rod
by Corey Miller KE6YHX

In the last article, I described the making of the PolyPhaser panel. Needed next was a ground line large enough to absorb a lightning-strike. As Dennis Kidder explained, N¬∞ 4 welding cable suits this task, and an 8-foot, copper-clad ground rod provides a suitable ground.

With the PolyPhaser panel attached to the inside wall, and the feed-lines rerouted from the window and through the wall pass-through, the welding cable was in-place and ready for the ground rod...

Driving the ground rod into the dry, stony soil was a two-person task, so Russ, KE6ZIL, helped. For lightning protection, N¬∞ 4 welding cable must be used, and the ground rod must be located at least four feet from the foundation of the house. The eight-foot-long copper-clad steel ground rod was found at McFadden-Dale in Santa Ana. Before starting, a 3/4-inch, 5-inch-long pipe and matching end-cap was bought from Home Depot, and a 20-pound sledgehammer from McFadden-Dale. Russ dug a pit one foot deep, as seen in picture 1, and we found that the rocks below necessitated an off-center driving location. We pulled the ground rod out of the pit a couple times in doing this.

Digging Jul 14 '12.JPG] Russ - KE6ZIL digging a pit 5 feet from the foundation.

TechTalk106
The Lightning Protection Process -Cont…

Before driving the ground rod, a point was ground on the end with a bench grinder, nearly, but not entirely sharp. The rocks in the ground would flatten a sharp point immediately anyway. This took about fifteen minutes. (As always, safety glasses are a must.) The hole was filled with water and the ground was soaked while grinding the point. The pipe and end cap was placed on the top of the ground rod to absorb the blows. (see photo 2) We found that the end opposite the point that was ground on the rod was considerably tapered to start out with, and would have been a better end to grind; the flatter end would have held the sledgehammer blows better. As it was, two plumbing end-caps were cracked-through, and the second cap was left nearly busted-through until the end.

Russ - KE6ZIL getting ready to drive the ground rod.

In the middle of driving the ground rod, at least one stone was broken through where pulling it would have been difficult, and it angled about 10¬∞ in a couple different directions as it slid past stones. It is recommended to not hold the ground rod vertical in the last three feet, or it will bend and become undriveable. Due to the proximity to the fence, we had to forego this recommendation, as seen in picture 3. Russ suggests using a lighter sledgehammer to get good swings with it.

We were able to drive in the ground rod five-and-a-half feet to the surface of the ground before it bent. The two-and-a-half feet that remained was cut off with a power grinder, leaving an inch or two above-ground to prevent excessive corrosion of the welding cable; this went considerably faster than grinding the point with the bench

Tech Talk #106
The Lightning Protection Process - Cont…

grinder. Rocking the power grinder from side-to-side helped to keep it from binding. The burrs that remained were then lightly ground off.

Russ - KE6ZIL and Corey - KE6YHX driving the ground rod.

I ordered the CadWeld One-Shot and the flint ignitor from Gordon Electric Supply online. At one point, I found that the concave steel disc that directs the flow of molten welding material had dislocated, but Woody at G.E.S. said it should work fine anyway. I found that the concave steel disc was dislocated an angle that nearly matched the tilt of the driven ground rod. So it was for the best. Next month, The CadWeld Process...

--73, Corey Miller KE6Y

Heathkit of the Month #46:
by Bob Eckweiler, AF6C

Heathkit GD-1776
Programmable Home Heating Control.

Introduction:
Brrrr - as I write this it's morning and the sun is rising, however the outside temperature is 31°F. We are in the middle of an unusual cold spell for Southern California, but I am snug in the house with the heat going, (Though I might be dreading the next gas bill just a tad.) There is a Honeywell programming thermostat controlling the furnace that lets me forget about adjusting the heat as in the old days; and if I'm going to be away for the day or for a week, it is easy to change the program with a few button pushes.

Years back, I remember two daily functions I did in the winter; turn the heat down in the evening, and turn it back up in the morning. The latter was easy to remember on cold days; the former often led to getting up in the middle of the night because it was just too warm under the blankets. Turning the heat up in the morning was a losing proposition; I either had to get up a half-hour or so early, turn up the thermostat and then go back to bed until it was time to get up, or turn the heat up when I got up, and let the house reach a comfortable temperature just as it was time to leave for work.

All that ended in 1977 when I bought my first programmable thermostat; it was the Heathkit GD-1776. By today's standards it is not high-tech. Yet, it turned up the heat in the morning so it was up to temperature when I got up, and turned it back down at night. Additional up-down times could be added; so if no one was in the house while I was at work I could have it go down after I left for work and back up before I got home. Besides the convenience, the Heathkit GD-1776 provided economic as well as energy savings.

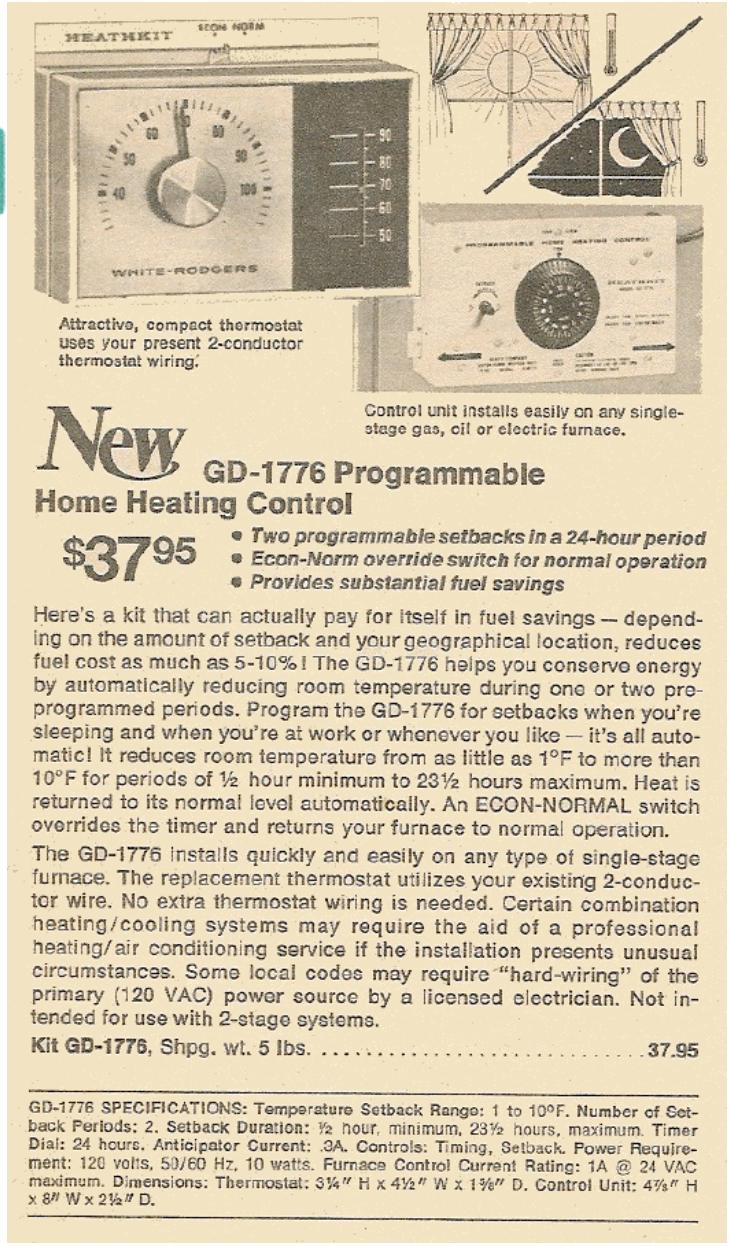


Figure 1: Heathkit ad introducing the GD-1776
From Heathkit Catalog #815 - Spring 1977 (page 44)

Heathkit GD-1776 Programmable Home Heating Control:
In today's world, one can say the GD-1776 was not "rocket science". Microprocessors were becoming popular - yet still expensive; and Heathkit took a different path. However Heathkit chose to implement their design, this device did its job, and did it well.

The GD-1776 was listed as "New" in the Spring 1977 factory catalog at a price of $37.95. In the fall 1980 catalog the price had risen to $39.95. How long after that before it was discontinued I was unable to determine. However, on that same 1980 catalog page, Heathkit was offering an assembled GDP-1369 by Robertshaw. This thermostat does everything the GD-1776 does, all built into the thermostat, plus battery backup and air conditioning control. It only cost $10 more than the GD-1776. (The original 1977 GD-1776 ad is shown in Figure 1.)

Figure 2: Heathkit GD-1776 Controller Unit

The GD-1776 has two parts, the thermostat that mounts on the wall in place of your original thermostat, and an AC powered timer and controller unit (shown in Figure 2) that mounts near the furnace. The thermostat is a White-Rodgers unit that came completely assembled, and the controller was the part you had to assemble. The existing thermostat wiring works perfectly for connecting the two units. only one pair of wires is needed.

The heart of the controller unit is a 24 hour, motor driven, electrical timer assembly manufactured by Intermatic. The timer wheel has 48 slots, each representing 1/2 hour increment. Metal tabs can be slid into the appropriate slots. Silver tabs are placed in the slot where you want the heat to set back (turn down) and brass tabs where you want the thermostat to work normally. The kit comes with two of each, but additional tab sets may be purchased.

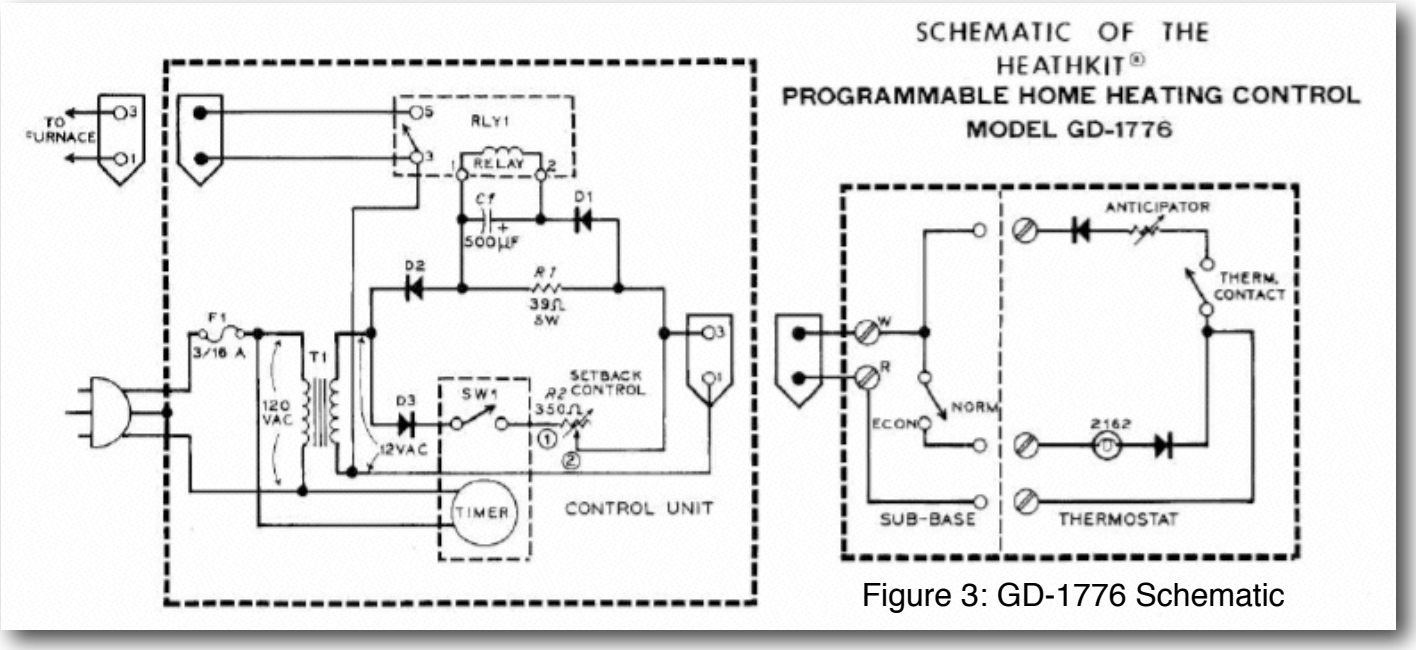


Figure 3: GD-1776 Schematic

GD-1776 Circuit:

The schematic is shown in figure 3. The concept is simple. Inside the thermostat is a small #2162 14V, 100 ma wire leaded lamp. For normal operation this lamp is off; but during setback periods the bulb is partly lit, producing heat and causing the thermostat to measure a temperature warmer than ambient. The amount of temperature setback is adjustable by a potentiometer control on the controller unit. The adjustment allows setbacks from 1° to more than 15° F by adjusting the brightness, and hence the heat given off by the lamp.

A transformer with a 12 volt secondary provides power for the lamp as well as the controller relay. When this relay is closed the furnace is on. The wire pair between the thermostat and controller performs two functions. One of the leads is the common lead, but isolated from ground. The second lead completes two circuits depending on the AC polarity. The AC voltage from the transformer secondary is steered by two diodes: D2 and D3.

When the thermostat contacts are closed D2 sends voltage through those contacts and through D1 to operate the relay, turning on the furnace. C1 smoothes the pulsating DC, preventing the relay from chattering. D1 isolates the relay and capacitor from the thermostat's anticipator circuit. R1 provides the proper load for anticipator.

When the timer motor contacts are closed, requesting the temperature be set back, D3 sends voltage through those contacts to the lamp in the thermostat causing it to turn on. In the controller, in series with the lamp is the **SETBACK** control which adjusts the current to the lamp. On the thermostat is an **ECON-NORM** switch which opens the lamp circuit in NORMal position preventing any setback.

The anticipator circuit, common on most thermostats, causes the thermostat to turn off a bit early since it often takes a while for the heat in the room to reach the thermostat. It operates in a similar way as the setback system; a small heater in the thermostat comes on along with the furnace. It is adjustable and the White-Rodgers instruction sheet describing the adjustment is provided with the kit. The factory anticipator setting worked well for my situation.

Conclusion:

The HD-1776 was simple to install; a pleasant surprise was that the new thermostat mounted in the same holes as the old one. The control unit was mounted on the wall in the furnace compartment next to the furnace. AC power for the controller was provided by the same wall outlet, located inside the furnace compartment, that supplies power for the furnace blower. The existing thermostat cable was used and rerouted to the GD-1776 controller assembly; a short two-wire extension cable, included with the kit, ran to the furnace thermostat connector. Molex three-pin connectors (one pin is not used) provide connections to the controller unit.

The thermostat worked as advertised. It took a few tries to adjust the setback to the desired amount. The setback was adjusted for about 10 degrees at night and I don't remember the heat coming on in the middle of the night except on those rare and very cold nights. Saving energy and money, while enjoying added comfort is a nice feeling!

The GD-1776 thermostat was installed in the fall of 1977. It worked flawlessly, giving good service up to the day it was replaced in the early 90s for the more highly programmable microprocessor based Honeywell *Magic-Stat*.

73, from AF6C

Remember, if you are getting rid of any old Heathkit Manuals or Catalogs, please pass them along to me for my research.

Thanks - AF6C

Western Amateur Radio Association

NOW OFFERING
ARRL AMATEUR RADIO EXAMINATION SESSIONS
(All levels: Tech, General, Extra)

Sponsoring Club: Western Amateur Radio Association (WARA), Fullerton, CA

Exam Site Location
La Habra Community Center
101 W. La Habra Blvd.
La Habra, CA 90631
2013 Exam Session Schedule
Thurs, Feb 21
Thurs, Mar 21
Thurs, Apr 25
(Note: This is the 4th Thurs in April)
Thurs, May 16
Thurs, Jun 20
Exam Sessions begin at 6:00 PM

Contact VE: George T. Jacob, Jr., N6VNI
Phone: Home 562-691-7898 Cell 562-544-7373
Email: N6VNI@ARRL.net

Pre-registration is requested and preferred – Walk-ins are welcome, but please arrive within 15 minutes of the published start time or call the contact VE if you are going to be late as the exam team will close the session if there are no candidates by that time.

On Exam Day Bring the Following Items

1. A legal photo ID (driver's license, passport) or Two forms of non-photo ID; e.g., birth certificate, social security card, library card, utility bill or other business correspondence with name of the examinee as it appears on the Form 605 and current mailing address.
2. Your Social Security Number (SSN) or FCC-issued Federal Registration Number (FRN).
3. If applicable, the original and a photocopy of your current Amateur Radio license and any Certificates of Successful Completion of Examination (CSCE) you may have from previous exam session. (Photocopies will not be returned.)
4. Two number two pencils with erasers, and a pen.
5. A calculator with memory erased and formulas cleared (no iPhones, iPads, etc.).
6. Test Fee: $15.00 (cash or check).

If you fail an element and wish to retake it, we are required to charge an additional test fee. If you pass an element, we typically offer and encourage you to take the next element. We do not charge an additional test fee for this and it gives you the opportunity to see what the next exam element is like!

Field Day Meetings Underway

The first Field Day meeting took place on Friday January 25th with 17 members present. Plans are underway and for sure this will be a Mega Field Day for everyone to remember. Antenna hardware identified thus far will constitute one of the biggest Field Day efforts to occur in Southern California. To make this happen every ones participation, support and enthusiasm is needed for this years Field Day. Many of the major needs still need to be filled, including someone to captain the coordination of the food efforts for the Field Day weekend. Also, Captains are needed for GOTA and VHF/UHF operations.

Many topics were discussed in the first meeting. Field Day Co-Chairman Dino indicated Walter Knott School is secure for Field Day weekend, June 20th thru the 23rd. K7JA discussed a new rule change allowing set-up to start at 5 P.M. PST on Thursday. Operating class and quantity of transmitters was another point of discussion. The quantity of transmitters is open at this time and will have a minimum of eleven transmitters on HF, including a digital, PSK31 station. Dino led a discussion in the many power options available, including the potential of renting a 15K diesel generator. Chip K7JA and Bob AA6PW discussed much of the antenna hardware and equipment to be made available for HF and VHF/UHF operations.

The next Field Day meeting will be will be on Friday, Feb 22nd, 7PM (location to be determined prior to the next club meeting). With solid support and participation this will be OCARC's and Southern California's best Field Days. There is still a lot of work to do and will need your input and enthusiasm. Dino and I look forward to seeing you at the next Club meeting and seeing you the following week at the second Field Day meeting of the year.

Bob Harrington – AA6PW
Dino Darling – KX6D
Your Field Day Chairmen

"WHOis" the OCARC VP??

by Ken W6HHC

(This is the second in a series of articles to inform you about the background of the 2013 officers and leaders of the OCARC.)

The 2013 Vice President for the OCARC is Tim Goeppinger – N6GP. He grew up in Arcadia, California and attended Maranatha High School and Cal Poly Pomona where he earned a BS degree in Electrical and Computer Engineering. He moved to Orange County in 1986

Tim N6GP at his home station where he loves to chase DX

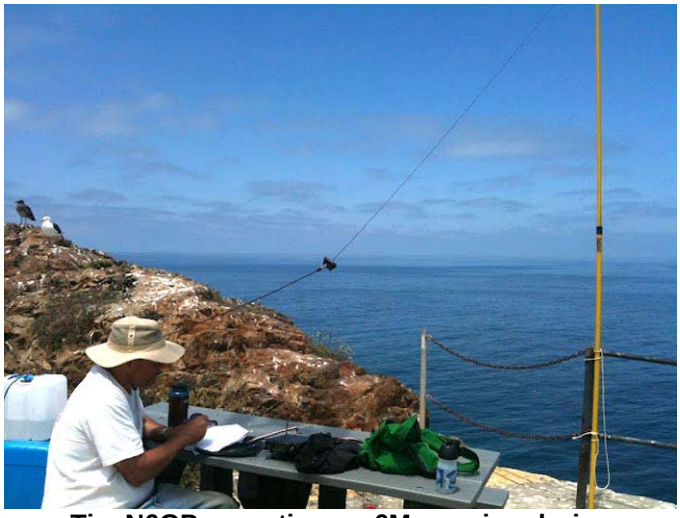
Tim's interest in amateur radio began with his Uncle Albert, W6FXL (SK) who lived in Escondido. Uncle Albert was a very proficient CW operator who enjoyed participating in weather nets. Tim took a summer school class taught by William Manley, W6LDT (SK), who administered the Novice examination to Tim in 1976. WN6OWD came on the air with a Heathkit DX-60A transmitter and a HR-10 receiver. Tim built his equipment with the help of his father.

His first antenna was a Hy-Gain 18AVT trapped vertical. Technician and General Class licenses quickly followed and Tim became very active on 10 meter SSB and joined Ten-Ten International as member 21149. In the mid-1990s he was active on the Russian satellite RS 12/13. The uplink was 15 meters and the downlink was 10 meters. These were low orbit satellites allowing contacts of several thousand miles. He joined the Southern California DX Club and So. Calif. Contest Club in 2006. Tim acquired his K6GEP vanity call in 1997, then gave that up for N6GP in 2012.

Tim first joined the OCARC in 1987. He enthusiastically helps OCARC at Field Days. One highlight of Tim's ham career was participating in the combined Orange County Amateur Radio Club and Western Amateur Radio Association second place national finish in the 2007 FD exercise. He was first elected as a Board member with OCARC in 2012.

The ham radio areas that interest Tim are:

- Chasing DX
- Portable operations
- Field Day
- VHF-UHF contesting
- Operating Islands-On-The-Air (IOTA)
- CQ WW RTTY contest



Tim N6GP operating on 6M opening during 2012 IOTA expedition from Anacapa Island

His station in Santa Ana presently consists of a Yaesu FT-990 transceiver and a digital interface. More power was added to his station a year ago with an Ameritron AL-811H amp. He has a tri-band 3 element Wilson Yagi 25 feet high, an inverted-Vee at 55 feet for 40 meters, and a sloper at 55 feet on 80M. He has DXCC (Mixed-299, CW-271, SSB-220, RTTY 210 confirmed) Tim also has 5BDXCC+3 WARC bands, 5BWAS, DXCC Challenge, WAZ and VUCC (6 Meters).

OCARC Board Meeting Minutes for: January 12, 2013

The OCARC Board meeting was held at the JagerHaus Restaurant, 2525 East Ball Road, Anaheim, and called to order to order by President Nicholas Haban AF6CF on Saturday, January 12, 2012. All directors were present except Kris Jacob KC6TOD. There were a total of nine members and one visitor present.

DIRECTOR REPORTS

Treasurer –Ken W6HHC reported two New Members have paid to joining the club. New officers will be going to the credit union to sign signature cards after today's meeting.

New Business:

APRIL Board Date- Approved to move the April Board Meeting to April 6th because will likely not have a quorum available on April 13th due to number of directors attending Baker to Vegas. Also, decided not to move the April 19th General Meeting since most members are believed to be available even though that is the weekend of the Visalia DX Convention.

Audit Committee Report - Bob AF6C reviewed the results of 2012 financial audit { see Jan RF newsletter- pages 21 – 22.} The committee reported the club had $5,862 in the banking accounts at the end of 2012.

OCARC equipment inventory – OCARC assets are listed on website. Treasurer Ken W6HHC will review and report to the Board in February.

Honorary Club Members - The following nominations for Honorary OCARC members were approved for 2013. Chip K7JA, Janet KL7MF, Bob Heil K9EID and Tom Woodard KI6GOA (Red Cross).

Newsletter Editors: Jan – AF6C; Feb – K6PEQ; Mar W6FKX; Apr – AF6CF; May – KI6WZU.

General Meeting Programs

– Jan – Tom Lewis N4TL Proper Grounding of the Ham Station video,
- Feb – Chip Margelli K7JA New Geometries for Yagi Beam Antennas - The Story Behind the InnovAntennas' LFA and OP-DES Yagi

Field Day - Discussed extending field day invites to Western Radio Association, SOARA, Catalina Repeater Association. Discussed that there is a planned Field Day Kickoff meeting for January 26th with a location to be determined. Board wants to provide input and assistance to FD Chairs so that 80th anniversary of clubs founding is dually honored.

OCARC Board Meeting Minutes for: January 12, 2013 – cont'd

OCARC 80th Anniversary – A motion was approved for mugs to be offered for sale to members.

Banking Signatures - Agreed that designated officers would go to the CU to sign new signature cards.

Good of the Club

BSA University - Tim N6GP will go-ahead and support the University of Scouting event with a free booth at Santa Ana College on Saturday Feb 2.

History Moment - A 5 minute History Moment will be incorporated into the general meetings this year as part of the 80th year celebration.

Restaurant Before Meeting - Doug Britton W6FKX would like to see organized a meal time gathering before the monthly General Meeting for those members interested in extending the general camaraderie in a social gathering. Doug Britton would like to see organized a meal time gathering before the monthly General Meeting for those members interested in extending the general camaraderie in a social gathering. More details to come but likely looking at meeting somewhere near by the Red Cross offices such as Hometown Buffet.

Respectfully submitted by:

Tim Millard KJ6NGF, Secretary 2013.




N4TL Lightning protection handout from HamRadioNow Sources of information June 9, 2012

Book published by PolyPhaser. *Lightning protection and grounding solutions for communication* sites by Ken R. Rand.
http://menters.rennlist.org/warren/LightningProtectionAndGrounding.pdf

Three part article from QST in 2002 by Ron Block, KB2UYT.
Amateur Radio Station Grounding and Lightning Protection by W5BWC, WP30A190 2011.pdf
http://www.arrl.org/lightning-protection

Amateur Radio Station Grounding and Lightning Protection by W5BWC. 2011
http://www.bwcelectronics.com/articles/WP30A190.pdf

National Fire Protection Association, NFPA 780
Standard for the Installation of Lightning Protection Systems 2004 Edition
http://uqu.edu.sa/files2/tiny_mce/plugins/filemanager/files/4310333/Appendix_-_NFPA_Standard_780_2004.pdf

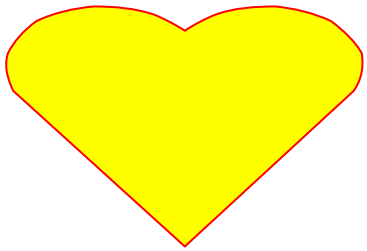
The Basis of Conventional Lightning Protection Technology
Report of the Federal Interagency Lightning Protection User Group, June 2001
http://www.lightningsafety.com/nlsi_lhm/conventionalLPT.pdf

IEEE Press, *How to Protect Your House and its Contents from Lightning.*
http://www.lightningsafety.com/nlsi_lhm/IEEE_Guide.pdf

There Is No Magic To Lightning Protection: Charge Transfer Systems Do Not Prevent Lightning Strikes
By William Rison, Professor of Electrical Engineering,
New Mexico Institute of Mining and Technology, Socorro, New Mexico 87801
http://www.lightningsafety.com/nlsilhm/magic.pdf

Controlling Electrical Hazards, OSHA 2002.
http://vvww.osha.gov/Publications/osha3075.pdf

PolyPhaser
http://wvvw.protectiongroup.com/PolyPhaser



Alpha delta
http://wvvw.alphadeltacom.corn

Another grounding presentation.
http://www.ad5x.com/irnages/Presentations/Lightning.pdf

KF7P
http://vvvvw.kf7p.com/KF7P/EntrancePanels.html
KF7P sells grounding equipment also look at the tech files.
http://www.kf7p.com/KF7P/Tech_Resources_files/Lighhtning°/020Protection%20on°/020a%20Budget.pdf

Recommendations

- A properly grounded tower or antenna support
  A good ground system - not just a single ground rod
- All site grounds connected together
- All conductors entering the ARS grounded to single point ground
- Surge protected AC line
- All ARS conductors surge protected
- Dwelling perimeter ground ring

Karl, W4CHX, information on his grounding instillation.
The work was done by Charles Durst NC4CD and his colleague, "Elmo". Charles owns Communications Structures Mgmt in Durham. He is an RF engineer and as I recall, Elmo is a licensed electrician. The firm oversees the grounding and management of many large commercial towers in NC and surrounding states. Karl paid for their services.

Testing of the system: At the conclusion of the installation, Charles NC4CD tested the grounding system. The method was quite involved. Probes were inserted in the soil adjacent to the ground rods and again, at various locations as much as 150-200 feet away. Test voltages/currents were applied and the ground resistance was assessed. The results indicated 2 Ohms resistance. Apparently, anything less than 10 Ohms is satisfactory. I recall Charles NC4CD being pleased with the results.

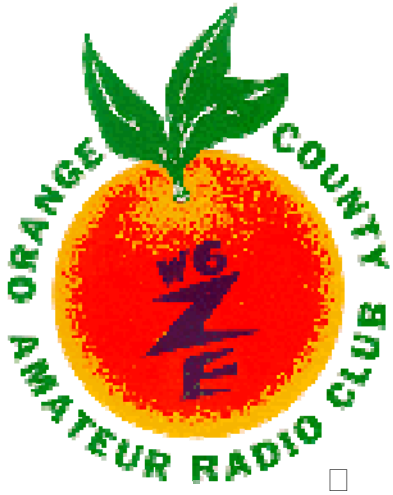
Renew Your OCARC Membership

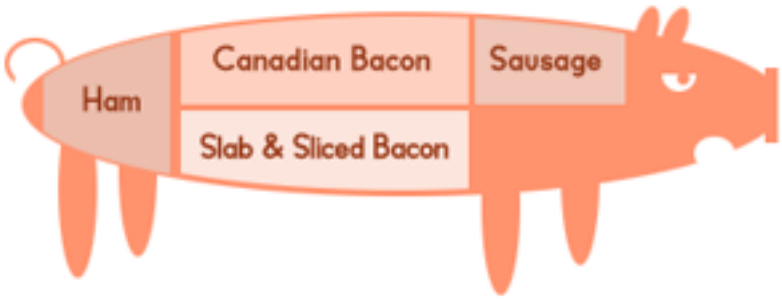
It's that time of the year again. Time to renew your OCARC membership for 2012, if you have not already done so.

Help continue to support your growing club. There are many entertaining monthly meetings, speakers and events planned for this year. But it can't happen without your support for OCARC.

Dues can be paid at the monthly club meetings, club breakfasts or via snail mail. Regular dues are only $20. Additional family members are $10 (Total). Membership for teenagers under the age of 20 is only $10 as well. What a deal!

OCARC
P.O. Box 3454
Tustin, CA 92781





Ham Cuisine

Kristin Dankert K6PEQ

Valentine's Day Breakfast

Ingredients:

32 ounces of packaged frozen hash browns
10 ounces diced, cooked ham
2 cans of condensed cream of potato soup
16 ounces sour cream
2 cups Sharp Cheddar cheese
1 ½ cup Grated Parmesan Cheese

Cooking Directions:

Preheat oven to 375 degrees F. Lightly grease a 9"X11" baking pan. In a large bowl mix the hash browns, ham, soup, sour cream and cheddar cheese together and then place in the baking dish. Sprinkle the top with the grated Parmesan cheese. Bake one hour or until lightly brown and bubbling.

Serving Suggestions:

Serve with heart shaped toast and lots of love!

You don't need to write like William "Bill" Shakespeare in order to write an article for the RF Newletter. In fact, we prefer articles without the words "Thy", "Whilst", "'Tis" and "Oft".

Do you have an idea for a newsletter article? Maybe you have acquired a new piece of equipment, designed or constructed a new antenna, took a trip focused around ham radio, want to share an amateur radio related experience or discuss a technical topic. Why not write an article for the monthly RF newsletter? The article can be short or long, simple or elaborate, and can even include pictures!

The RF newsletter relies on articles from our members. So why not give it try? Write an article and send it to the newsletter editor. It's fun, and at the same time, your contribution helps support our club and hobby!

If you want you can also try your hand as the newsletter editor. We have a rotating editor monthly and would love to have someone new give it a try. There is a template and it is easy and fun!!