The PROPAGATOR

January, 2003

The Monthly Newsletter of South Orange Amateur Radio Association

Discovering Corsica The TK4Z Story

What attracted the Phoenicians, Carthaginians, Imperial Romans, Goths, Byzantines, Saracens, Genoese, Spaniards, and French to the wild, rugged island of Corsica? Slave Gathering? Trade Expansion? Territorial Conquest? Worldwide DX Contesting? …Well, it certainly was the latter that attracted our perennial ham radio contest group to this "mountain in the sea".

Discover Corsica for yourself at this month's club meeting. Join noted photographer and raconteur Art Goddard, W6XD, for an illustrated tour of this remarkable land and its proud people. Find out how a roving group of 50- and 60-somethings reached the "Big 4-Oh" on Corsica and pick up a few tips on having fun with Ham Radio. Here's a program for the whole family - don't miss out!

Art Goddard, W6XD, earned his novice Amateur Radio license in 1956. He worked his way up through the ranks to Extra class. His radio activities include HF/VHF, DX, contests, satellites and digital communications. He has traveled in numerous foreign countries. Equipped with his camera, Art captures the DXpedition spirit to share with fellow amateurs at club meetings and conventions.

See you at the meeting: 7:00 PM on Monday, January 27 at the Civic Center in Mission Viejo. ☐

New Members

A hearty welcome to SOARA's newest members:

Henry C. Pierce	W6MTX
John Dunn	KD6CDV

SOARA WELCOMES BCWS.

On behalf of the Board of Directors and Members of SOARA, it is my distinct pleasure to welcome the members of the BCWS into SOARA. We enthusiastically look forward to the many contributions and depth that these folks will undoubtably bring to SOARA.

Most of you are quite familiar with our neighbor club, the Beach Cities Wireless Society that is headquartered in San Clemente. But in case you are not, The BCWS has operated the 146.025 + (110.9) machine from Mount Nixon in central San Clemente for quite some time. They held field days, banquets, picnics, and monthly meetings just as SOARA does.

Unfortunately, just as in many Amateur Radio clubs of late, membership and revenues have slowly dwindled, and it has become increasingly difficult to continue to provide the activities and services the members desire. A committe of BCWS officers was formed to explore their options, and in mid-November this committee approached the SOARA board to see if we could be of assistance. Of primary interest was the continued operation of the BCWS repeater, but the ability to have good monthly programs, activities, field day, etc., was also important After brief but thoughtful consideration, the SOARA Board unanimously concluded that an agreement could be reached that would allow the BCWS members that so desired to transition to SOARA membership, and that SOARA would be able to operate and maintain the BCWS repeater. This agreement was signed by both parties on January 16, 2003.

The agreement calls for all members of the BCWS to become members of SOARA by simply remitting the 2003 dues of $42.00. Any initiation fees, board review, etc. are being waived in this special case. In addition, members of BCWS who are unsure if they want to join SOARA, have one year to make up their minds to do so, and will still enjoy the special waiving of fees etc. Some BCWS members have already remitted their dues, and to them we say a hearty welcome and thank you. To those who are undecided, we urge you to attend our meetings, check us out, and utilize our other repeaters as listed here in the Propagator. We also sincerely hope you will check in on our HF and VHF nets or get involved in any other club activities that may interest you.

To our regular SOARA members, try tuning to the 146.025+ (110.9) machine and make some new friends. Please also extend a friendly hand and warm greeting to any of the BCWS folks as they attend our functions. Let's show them what an outstanding club and special group of people we are so fortunate to have.

We are extremely pleased that the members of BCWS overwhelmingly voted to move over to SOARA. Again I say a very heartfelt welcome.

Ray Hutchinson, AE6H, President

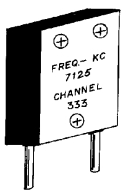
The Way I See It:

Understanding Radio Theory Without Math.

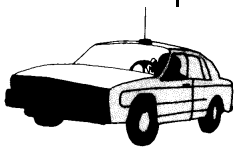
It seems to be a trend for monthly publications to use their January issue to review the past and analyze the future — in general to become philosophical. So rather than indulge in examining the behavior of excited electrons, this months column will look at a variety of slightly related topics.

Every daily newspaper has some story related to the possibility of war. Years ago, when I was younger, the armed forces were very interested in Ham radio operators. They already knew Morse code and something about radio. Is there a similar interest today? I suspect not as much. Code isn't important and the radios are really quite automatic — not the same level of skill required.

A similar story holds for civilian emergency communications. We may have skills and equipment that will help in times of need, but the authorities are generally less enthusiastic than in past days. When I was a young ham living in West Virginia, hams that provided communications for the forest service could have red lights on the front of their cars. That was a "big deal" back then — after all they were emergency volunteers. In fact in the `50s having a whip on your car caused many drivers to suspect that it might just be a police car.

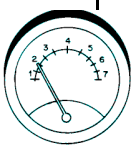


Today the average car probably sports more than one antenna. And the driver may well be talking on one of those radios known as a cell phones. Lo, how the mighty have fallen!



Still, amateur radio is fun and exciting. SOARA is well on the way toward implementing a system to link a repeater to others through the world via the internet. This could open up a lot of opportunities for meeting hams using a technology that was not dreamed of in the good old days.

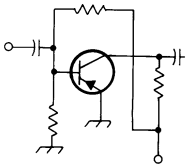
Hardware is certainly changing. When I had my first radio receiver, a National NC-57 (back in the `50s) I could have drawn the schematic from memory. I also had a pretty good grasp of the structure and function of each of the tubes. The big rig I have today probably has as many microprocessors as that radio had tubes. Not really, the NC-57 used 7 tubes plus a rectifier and voltage regulator (I know, that's nine tubes) and the Yeasu FT-990 has 6 microprocessors. The price of that National radio was about $90 when it was new. Let's see . . . a nickel candy bar cost about a dollar today, and at that rate of inflation my current rig didn't cost much more than that original radio.



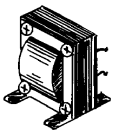
One thing that I miss from the good old days is the prospect of acquiring some used equipment and converting it to amateur use. Yes there is still such equipment available, especially if you want to experiment with microwaves (where experimenting is most interesting). But don't dream of modifying a discarded cell phone to use on 440. Radio hardware is changing — using fewer and more complex parts. Disassemble a discarded cell phone to see how it is made. How can they implement all of those features with so few parts?

But the coming radios will be the so called "software defined radios," even amateur radios. DSP (digital signal processing) will become ever more common, and the analog to digital converters will move closer to the antenna. The first DSP units accepted audio input. You can already buy radios which have IF DSP, although usually not the first IF.

All of those kids who are playing with computers instead of radios may yet be attracted to our hobby when they see that they can apply their skills to rebuilding the radios in software. It may be embarrassing when you have to ask your teenager how to reboot your radio!



Next month I will return to something closer to discussing radio equipment behavior. This might be a good time to explain the reasons for the approach of this column: "Understanding Radio Theory without Math." It is true that you cannot fully understand Engineering or Physics until you have a grasp of the mathematics involved. Maxwell's equations describe all electrical phenomena — once you add the boundary conditions and the properties of materials. But the math is really quite advanced and the solutions quite often require a computer in order to carry them out. Still, most engineers and physicists need more than the equations to have a feel for electrical behavior. Most of us (hams) don't need exact (mathematical) answers and don't have the means of defining the problems adequately, even if we need exact answers.



So a non-mathematical insight into the behavior is beneficial for us and for the majority of engineers. All of this radio "stuff" may seem like magic, but a magic we can understand and control. That is the best kind of magic.

Let me close this with a few words about SOARA. Last year was a good year in many ways. It was sad in that we lost several of our members and we will miss them. The closing event of the year — the annual party was held on December 1 at Peppino's in Laguna Niguel. We had a very good turnout (about 50 people) and a lot of fun. Ray, AE6H gave a review of the year's activities. (Did you hear, we did very well on our Field Day score!)

The Parkers, KA6BJO and KA6BJP, were honored for their many years of service to the club. They have moved to the desert, but still participate in the Sunday morning 40 meter net. SOARA is a great club I hope you enjoy it as much as I do. 73 de W8RRV.☐

Year 2003	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sept.	Oct.	Nov.	Dec.
General Meeting 7:00 PM	**27**	**24**	**17**	**21**	**19**	**16**	**21**	**18**	**15**	**20**	**17 Auction**	**No meeting**
Program	W6XD											
VEC Testing 5:30 PM	**27**	**24**	**17**	**21**	**19**	**16**	**21**	**18**	**15**	**20**	**17**	**—**
Propagator Deadline	**21**	**17**	**10**	**14**	**12**	**9**	**14**	**11**	**8**	**13**	**10**	
Board Meeting	**2/3**	**3/3**	**24**	**28**	**26**	**23**	**28**	**25**	**22**	**27**	**24**	
ARRL Field Day						**21/22**						
SOARA picnic								**2**				
Fall Auction											**17**	
SOARA Holiday Party												**7**

Repeater News !!!!!!!!!

Progress on the Laguna Beach repeater upgrade and IRLP incorporation has continued since our last report albeit at a slower pace due to the impact of the holidays.

In November's column we reported that we had acquired additional used cards for the Link Communications RLC-3 repeater controller. Upon testing of the cards we discovered that all had defective CMOS integrated circuits. We did get an attractive price for the cards so we proceeded to replace all the integrated circuits and now have a full set of working cards. Bob is in the process of developing software functions as we both struggle to write a functional description to guide the development.

Also at the time of the last Propagator, we planned on modifying the Hamtronics 440 repeater to interface with the RLC-3. Since that time, we located a Yaesu FTR-5410 repeater radio at a very reasonable price. The radio has been modified to interface with the RLC-3 and crystals have been received for 445.660/440.660 MHz. The radio is currently being tuned for the repeater frequency. The Yaesu radio is of the same series as our 2-meter radio and will simplify maintenance. In addition, the system can be more fully integrated in the laboratory, thus reducing risk.
All the link radios necessary to support IRLP have been modified and tested. We are awaiting a coordination approval by SCRRBA.

As reported earlier, the IRLP node has been acquired and a node number assigned. The next step is to integrate the IRLP node with the link radios and the RLC-3.

As reported elsewhere in this issue, SOARA and Beach Cities Wireless Society (BSWS) have recently merged bringing their 2-meter repeater into the system. It operates on 146.025+ with a PL of 110.9 and is located on Mt Nixon in San Clemente at an elevation of about 900 feet. Mt Nixon is about ½ mile east of the I-5 at its crossing of El Camino Real. No changes in the repeater operation are planned except for updating its call sign to K6SOA and some editing of its voice message set. Later, we may link it to Laguna Beach and make IRLP available to its users.

The operational repeaters are all working well. I have recently enabled the transmit PL for the Trabuco Canyon repeater (145.240) so you can use tone squelch as you choose. I have also shortened the hang time on the Laguna Beach 2-meter repeater from five to one second.

Howard G. Brown, KG6GI

Bob Grant, W6CIC

Tom Kormanik, W5LON

Mike Mullard, KF6HVO

And your entire Board . . . □

Class Scheduled

Chad Edwards, KQ6TL, SOARA's Education Director has announced that SOARA will again sponsor an introductory level radio class leading to an Amateur Radio License. Classes will be held on Thursday evenings starting March 6 and running through May 8. Each meeting will run from 7:00 PM to 9:00 PM. The location is the Mission Viejo Civic Center at the end of Veterans Way.

The cost for the ten sessions is $35.00 and covers the cost of the text book and an FCC exam at the end of the course. Th text book for the class is ***Now You're Talking***, published by The ARRL, the national association for amateur radio.

Please pass this information along to any friends or family who maight have an interest in investigating amateur radio. More infomation may be obtained or reservations can be maid by e-mail to classes@soara.org. □

FCC testing

Paul Levey, NZ1M, and his team of Volunteer Examiners (VEs) hold test sessions at 5:30 PM, just before each club meeting. Walk-in applicants are welcome or prior arrangements may be made by contacting Paul at nz1m@soara.org.

The PROPAGATOR

South Orange Amateur Radio Association
P.O. Box 2545
Mission Viejo, CA 92690

First Class Mail

Meeting: January 27, 2003 at 7:00 PM
Art Goddard, W6XD - "The TK4Z Story"

☞ **SOARA** meets at the Mission Viejo Community Center, 26932 Veterans Way, Mission Viejo, the third Monday of every month at 7:00 PM. Changes to the meeting time or place are announced in this newsletter and on the two-meter repeater.

☞ **License Exams**: Amateur License Exams are given prior to SOARA meetings every other month. Exams are from 5:30 to 7:30 PM. Walk-ins are welcome. For information call Paul Levey, NZ1M, at 949-249-0121.

☞ **Contacting SOARA:** Questions about SOARA? Send e-mail to: i*nfo@soara.org*, or leave a message at 949-249-1373.

☞ **Web Site:** SOARA maintains a web site with current club information. The URL is: **http://www.soara.org.**

☞ **Repeaters:** The SOARA 2-meter and 70 cm repeaters are open to all licensed hams.

SOARA 2m — 147.645 - (110.9)
SOARA 2m — 145.240 - (110.9)
SOARA 440 — 445.660 - (110.9)

The SOARA 220 and HROC 440 repeaters are shared by members of both clubs. Each machine is subject to the operating rules of its respective club. Call KG6GI for details.

SOARA 220 — 224.100 - (110.9)
SOARA 220 — 224.640 - (123.0)
HROC 440 — 447.180 - (131.8)

☞ **Nets:** SOARA 2 m repeater open net is held Tuesday 8:00 PM
40 meter HF net (7.268 MHz +/- for QRM), Sunday 7:30 AM.
PSK - 31 net (28.120.15, 1000 on waterfall) Friday 7:00 PM.

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