

Spurious Emissions



The Newsletter of the South Bay Amateur Radio Society



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SOBARS Member Derrick Dudley, K7SVN, working QRP digital (PSK-31 and JT65) from his backyard. See Derrick's review of two inexpensive QRP dipole antennas on Page 3.

Derrick Dudley, K7SVN



**SOUTH BAY
AMATEUR RADIO
SOCIETY
(SOBARS)**

K6QM

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SOBARS is an ARRL-affiliated ham radio club with members from San Diego, National City, La Mesa, Chula Vista, Bonita, Imperial Beach, and San Ysidro, California.

OFFICERS

President: John Wright, K6CPO
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Jim Beckman, N6RSL

Emergency Coordinator:
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Property Trustee:
Louie Vignapiano, KI6SRR

SOBARS meetings are held
at the Chula Vista RV Resort,
460 Sandpiper Way,
Chula Vista, CA 91910
See the website for dates & times.

Club Repeater: 146.085 (+)
PL: 100.0
Yaesu System Fusion®

CLUB NETS

Club nets are held every Tuesday
evening on the following bands:
1830: (PT) 448.340 (-) PL 100.0
223.840 (-) PL 107.2
1900: (PT) 146.085 (+) PL 100.0
1930: (PT) 28.480 USB
7.240 LSB

From The President's Shack

By John Wright, K6CPO

Another three months have passed and it's time to update everyone on what's been happening with SOBARS.

One of the things I mentioned in the last issue was getting the 2 meter repeater back to normal operation. I described what needed to be done. Well, I'm pleased to report that the has been accomplished! The 2 meter and 440 repeaters are now on separate antennas and working perfectly. Starting on April 11 we will return to using the 2 meter repeater for our 7:00 PM weekly nets (Tuesdays.) Our thanks go out to Ed Flinn, WA6YVX, for his fearless tower climbing and work removing and installing antennas on the tower. Thanks also the Dave Kaltenborn, N8KBC for preparing the antennas, feed lines and tuning everything for optimum operation. THANKS ED AND DAVE!

Now that the repeaters are working as intended, it's time to address the battery issue. The existing batteries have far outlived their expected usefulness and are in critical need of replacement. This topic will be discussed in depth at a future meeting.

Once again, Fry's Operating Day is coming up. The next one will take place on Sunday, May 7, 2017 in the parking lot of Fry's Electronics in the Murphy Canyon area. This is always a good event and a great opportunity to come out and rub elbows with your fellow hams.

As the same members staff this event time after time, I would like to see more members participate, even if only for a short while during the day.

While we're on the subject of

participation, Field Day 2017 is fast approaching. It will take place June 24-25, 2017 (the last full weekend in June.) Because of last year's low participation, we will want a *firm* commitment to operate from at least five members by the May 2017 meeting, or we will not hold the event. Because of the cost of the permit and the Porta-Potty, the board is unwilling to expend the funds without a guarantee of participation.

As an alternative, if SOBARS does not participate as a club, the San Diego ARES group has extended an invitation to all hams in the section to participate in their Field Day event. More information on this as we get closer to Field Day.

In the last issue, I reported on changes to California's Distracted Driving law and how those changes could adversely effect mobile operation for hams in the state.

Thanks to the efforts of Section Manager Dave Kaltenborn, N8KBC, and others, progress has been made towards ensuring this new legislation does not effect amateur radio mobile operation. This will be covered in a separate article in this issue.

San Diego ARES will be conducting a Simulated Emergency Test (SET) training event on Saturday, April 22, 2017. This is a "comms only" drill with no deployments. More information, including a time-line is in a separate article in this issue.

That's all I have for this issue.

73 everyone! ✈

QRP Dipole Antennas

Article and Photos By Derrick Dudley, K7SVN

On March 1st I was browsing YouTube for videos that I found interesting. As I was just about to stop one video, I saw something that intrigued me. A

small, thin dipole antenna for mostly QRP. I found the maker (Tim) N9SAB and we exchanged messages about his dipoles. Looking at his Ebay “Store” there were many different dipoles: Single band, multi band, and more rugged versions of your choice. I bought two dipoles, a 20m and a 40m. They come with a BNC connector, and a little bag to keep them in your “go-kit” or just next to your camping radio.

I went out to my backyard and did some QRP with digital modes. (PSK31, CW and JT65) using 15 watts with Yaesu FT-857D and my two new dipoles. I was able to make digital QSO’s with people from Hawaii, Cuba, Venezuela, Oregon and Minnesota. There were others I could hear, but did not contact.



Next was the phone test. I went to 50 watts and people were booming in. I did not have an actual phone QSO, on both 20, and 40m. I copied a lot of rag-chews and I know I could have gotten back to them, but due to the intense activity, I just listened. As I heard them give their call, I was hearing Nevada, Washington State, Chicago, IL and many more. All that with the antennas 3 feet to five feet off the ground.

Each dipole is half-wave, 20 AWG stranded, UL-1007 tinned-copper antenna wire and two (2) ring connector eyelets at each end, thoroughly insulated with waterproof marine-grade heat shrink on both ends for maximum strain relief. All electrical connections are soldered using silver bearing rosin-core solder. A cap to cover the BNC when not being used is included. As I have a SO-239 connector, Tim was nice enough to put a BNC to SO-239 connector in there for me. If you choose a band, it is possible to ask him to make it more resonant at a certain part of the band. The one thing I did not do was to hook it up to an analyzer.

I found these two dipoles very effective, and I plan to visit his page for a few more things. He has 100 watt versions and as mentioned, more rugged versions. Right now I am not worried about the price, but I got both dipoles for \$40.00. Can’t beat it!

As I am giving a review on the product I bought and that my fellow hams might look at, I give this product an “A”. (Even without hooking them up to an analyzer)

- They are made in a fashion that we can hook up and get a good signal out.
- They are made with quality and thought for hams by a ham.
- They were at my house in three days. (But that can vary.)
- Tim Ortiz (maker) is very responsive to his mail and open to questions.
- 30 day guarantee. If you have an issue with your product he will send you a new one no questions asked!

As I said to a member of SOBARS, I would not recommend anything without using it first.

For more information check Tim out on his Ebay store at http://www.ebay.com/usr/timortiz?_trksid=p2047675.12559 Let him know you are from SOBARS. ✈



Distracted Driving Law Update

By John Wright, K6CPO

As many of you well know, effective January 1, 2017, changes were made to Section 23123.5 of the California Vehicle Code effecting the use of electronic devices while driving.

There was concern that the new law was too broad and could be applied to amateur radio mobile operation as well as cell phones. Through the efforts of Section Manager Dave Kaltenborn, N8KBC, and the ARRL, progress has been made in ensuring this isn't the case. The following are a series of updates from Southwestern Division Director Dick Norton, N6AA, Tomasa Dueñas, Chief of Staff for Assemblyman Bill Quirk (D-20) the author of the original legislation and the California Highway Patrol.

The first update was sent out to ARRL members on March 16, 2017 by Southwestern Division Director Dick Norton, N6AA:

"Here's an update on California's new hands-free driving law with a little background for reference.

The prior version of Vehicle Code Section 23123.5, while it contained no specific exemption for Amateur radio, effectively excluded Hams by virtue of the relatively narrow definitions of what that law covered.

Assembly Bill 1785 was introduced in February 2016 by Hayward Assembly Member Bill Quirk, whose district lies in the Pacific Division. In its initial form, there was no adverse impact to Amateur Radio, as it applied only to reading, writing and sending text-based communications.

Over the ensuing six months, however, the language was amended five times, with the end result being much broader in scope and including a prohibition of "specialized mobile radio device[s]" that were not hands-free. This opened the door to widely varying interpretations of what might fall under the umbrella of "specialized mobile radio device[s]".

We were first alerted to this bill by San Diego Section Manager Dave Kaltenborn, N8KBC, in September, by which time it had been passed by both houses in its final form and was less than a week from being signed into law by the governor. Vice Director Woll tried direct outreach to Quirk's office and to other potentially interested parties such as the California Trucking Association, but he received no responses. As this newsworthy change in the law began getting broadcast airtime, ARRL Division

and Section officials started receiving many inquiries from concerned members. Woll contacted several of our local Volunteer Counsel attorneys, who did some research. In addition to getting the complete legislative history of the bill, we eventually obtained a statement from a staff member of the Assembly Transportation Committee that the intent was not to include Amateur Radio and the absence of some exclusionary language was an oversight. Meanwhile, private and public statements from members of both law enforcement and the judiciary were coming out with adverse interpretations for Amateur Radio, adding to the level of member consternation and validating our initial concerns.

State government officials will generally not engage in communication with voters outside their respective districts. An exception may be made, however, if the voter's own representative makes an "introduction". Now-retired Volunteer Counsel Len Shaffer, WA6QHD (Palmdale case attorney), requested and received such an introduction and was then able to schedule a meeting in Sacramento for himself and Vice Director Woll with Quirk's legislative deputy. That meeting took place on Tuesday, March 14, 2017, and future action looks promising.

Woll and Shaffer came armed with specific documentation of inconsistent interpretations, including names, dates and contact information, and the deputy appreciated this level of detail. She advised us that her office had already been approached by lobbyists for several non-Amateur interests which also saw the new law as a threat to mobile radio communications. Their proposed solutions, however, were industry-specific or employment-based, none of which would protect Amateur Radio. We discussed the kinds of public service work Hams do that would be adversely impacted without some form of exemption, and she agreed that broader exclusionary language would be more appropriate than individual carve-outs.

As to the mechanics, we suggested a letter from Quirk to the state government's Legislative Journal clarifying the legislative intent.

That would provide more immediate defense for mobile radio users than would an amending bill, which is in the works (AB-1222) but would not take effect until 2018. She told us that such a letter is being developed and agreed to advise us when it is ready to go. We also suggested adding clarifying language to the Committee's omnibus bill.

The deputy said they would consider doing so but that some procedural pitfalls could eliminate that route.

Finally, the California Highway Patrol is expected to disseminate guidance within a month or two. Through a Ham contact at the Los Angeles County Sheriff's office, Vice Director Woll had already received a preliminary version of that guidance. It states that using wired radio microphones would not be considered a violation but that using hand-held radios would be cause for a citation. If the final CHP guidance comes to a similar conclusion, it will be a less-than-perfect but, in our judgment, somewhat acceptable conclusion. The deputy also promised to advise us when that interpretation is issued in final form.

Of course, CHP guidance will not filter down to all law enforcement agencies in the state, so citations by local police may still occur, and authoritative evidence of legislative intent will still be important for any Amateur who has to challenge a citation in court.

From the above, it appears that no grass-roots action is needed at this time. However, until and unless we receive authoritative guidance to the contrary, we advise against using handheld radios while driving unless they are equipped with external, corded microphones. As always, avoid any radio usage or other activity whenever you feel it detracts from your ability to control your vehicle fully or to maintain awareness of surrounding traffic."

This was followed the next day, March 17, 2017 with a message from Tomasa Dueñas, Chief of Staff for Assemblyman Bill Quirk:

"Subject: AB 1785 (Quirk, 2016)

Date: Fri, 17 Mar 2017 01:08:43 +0000

Thank you for taking the time to email our office regarding your questions on the implementation of AB 1785 (Quirk, 2016) that deals with curtailing distracted driving.

We have been looking into your concerns for several weeks.

The intent of the bill was always to address a deficiency in current law regarding allowable activities with smartphones while driving. I am attaching a fact sheet and letter to the governor to show that.

I know there have been questions regarding the definition of "electronic wireless communications device" found in Section 23123.5(f) of the Vehicle Code.

I have been in discussions with the California Highway Patrol (CHP) and the California Police Chiefs Association

who played a critical role in helping us move AB 1785 last year.

I would like to update you on where we are with cleaning up or clarifying the language in Vehicle Code Section 23123.5(f).

First, CHP believes that the intent of the bill was to curtail distracted driving caused by the use of smartphones while driving that extend beyond texting and calling. CHP does not believe that the language in the vehicle code applies to the use of handheld-amateur radio devices. CHP plans to issue a statewide directive that details their official interpretation of the law. I do not have an estimated date for when that will become public. I have been told that it's a priority for CHP and should be available soon. I am happy to email that to you when it becomes available.

Second, we are working to submit a Letter to the Journal. The Assembly Journal serves as official record of the legislative intent behind bills that we pass. This letter will further serve as official record of what Assembly member Quirk's intent was with AB 1785 – what activities he meant to curtail while people are driving, what technologies this does and does not apply to. As soon as this letter becomes publicly available, I will be glad to send that to you.

Third, we are discussions with CHP, the Police Chiefs and a group of stakeholders regarding the need to update the language. Some of you have sent me suggested edits, and I thank you for that. We are reviewing this with CHP. Assembly member Quirk has expressed that he will not author a bill that law enforcement is not comfortable with. We introduced AB 1222 as a placeholder as we negotiate and work on language.

Thank you."

On March 28, 2017, the following message was sent to all CHP commands from the CHP Headquarters in Sacramento:

"-----Original Message-----

*From: Comm-Net Message [mailto:noreply@chp.ca.gov]
Sent: Tuesday, March 28, 2017 8:23 AM*

To: @CHP

Subject: Comm-Net: Enforcement of Section 23123.5 of the California Vehicle Code

Enforcement of Section 23123.5 of the California Vehicle Code

To: All Commands

Reference: Action Required

Subject: Enforcement of Section 23123.5 of the California Vehicle Code

Effective January 1, 2017, Section 23123.5 of the California Vehicle Code (CVC) was amended by Assembly Bill 1785, which substantially expanded the scope of Section 23123.5 CVC, from simply prohibiting the use of a wireless phone to text while driving, to prohibiting holding and operating a handheld wireless telephone or an electronic wireless communications device while driving.

However, a driver may still use a handheld wireless telephone or an electronic wireless communication device while driving when:

The handheld wireless communication device is mounted to a windshield (in compliance with Section 26708[b] CVC), dashboard, or center console in a manner which does not interfere with the drivers view of the road, and;

The drivers hand is used to activate or deactivate a feature with a single tap or swipe of the drivers finger.

Pursuant to Section 23123.5(f) CVC, the definition of an electronic wireless communications device includes, but is not limited to: a broadband personal communication device, a specialized mobile radio device, a handheld device

or laptop computer with mobile data access, a pager, or a two-way messaging device.

Section 23123.5 CVC does not apply to manufacturer-installed systems which are embedded in the vehicle, nor does it apply to an emergency services professional using a wireless telephone while operating an authorized Emergency vehicle, in the course and scope of employment.

For the purposes of Section 23123.5(f) CVC, a radio installed and mounted in a vehicle with a wired hand microphone (e.g., business band or citizen band [CB] radio) is not considered a wireless communication device, nor is it considered a specialized mobile radio device, and therefore is not subject to enforcement under this section.

This information will be added to an upcoming revision to Highway Patrol Manual 100.68, Traffic Enforcement Policy Manual, Chapter 5, Other Enforcement Issues.

CHP Headquarters/Office of the Commissioner/061/18227"

Keep in mind this message applies only to the California Highway Patrol and may not represent the interpretation of local authorities, such as city police and the Sheriff's Department. And while progress is being made in ensuring this new law isn't applied to amateur radio operation, it is still prudent to be mindful of distractions while driving. ✈

Interesting Developments in North Korea

Editor: While cruising some amateur radio forums, I discovered this post I thought the readers might find interesting:

Yesterday I came across an interesting article in *The Manichi*, a Japanese technical news publication-- which I'll summarize:

.....There was a news release earlier this week by the North Korean News Agency (NKNA) of"a technological break through that may be of interest to radio enthusiasts world wide."

North Korean scientists announced that they have perfected the technique of extracting usable electrical power from radio signals radiated by transmitters world wide. Engineers at the Yongbyon Scientific Research Center have released limited details of a process called "Coeration" that "utilizes very high efficiency circuits to extract useful energy from radio frequencies." This energy is currently being used to power the small town of Nangnim, in the northern province of Changan-Do on an intermittent testing basis. They are now producing only a thousand kilowatts, but the North Korean scientists report they are "embarking on the full scale production of larger facilities that will soon power entire cities."

Sensitive to international repercussions that could results from the disruption of radio transmissions world wide, the North Koreans have stated they will limit the bands of frequencies only to those used "for frivolous purposes," the NKNA report continued.

"The People of the Democratic People's Republic of Korea do not authorize or condone the use of hobby recreation radios. We therefore will limit, for the immediate future, only the extraction of energy from the world hobby class radio bands in the 3-4, 7 and 14 MegaHertz segments."

Both the Korean Amateur Radio League (KARL) and the Japan Amateur Radio League (JARL) last week reported markedly reduced signal strengths in the 14Mhz band, occurring during periods coinciding with the North Korean tests. So far no countries have lodged any formal complaints. The potential for detrimental effects are yet to be determined, and the story is ongoing.

.....CF ✈



The modern computer network used to control the system.



An engineer at the controls of the “Energy Extractor.”



A detail of the Zong SV2A vacuum tube amplifier—the heart of the system.

Interesting Gadgets I Wish I Had Time For

By Dan Romanchik, KB6NU

I'm on a lot of mailing lists and participate in a bunch of amateur radio forums. As a result, I see a lot of interesting gadgets that guys are buying or are thinking about buying. Here are three of the latest that look interesting to me. I wish I had time (and money) to purchase all of these and try them out.

Android antenna analyzer

On Reddit (https://www.reddit.com/r/amateurradio/comments/60nnp1/finally_got_my_mini60_ebay_antenna_analyzer_time/), some of the guys have been talking about the Mini60 Antenna Analyzer (<http://www.ebay.com/itm/CW-USB-Interface-Cable-WINKEYER-compatible-3-5mm-plug-/132121085623?hash=item1ec307c6b7:g:up8AAOSw241YeTei>). Its frequency range is 1 – 60MHz, but the cool thing about this device is that you can use it standalone with the built-in LCD display or with some software (<http://www.jtelectronics.co.nz/information/links/MINI60/Add-Bluetooth-Module-To-MINI60-Antenna-Analyser.htm>) and a tablet with a Bluetooth interface to get fancy frequency vs. SWR plots. See <http://www.kb6nu.com/wp-content/uploads/2017/03/mini60-ant-analyzer.jpg> for a photo of the Mini60 Antenna Analyzer being used with an Android tablet.

Of course, this is made in China, but how can you beat the price? It costs \$112 shipped.

Multi-functional component tester

Here's another marvel of Chinese engineering and manufacture – a smart component tester (http://www.banggood.com/3_5inch-Colorful-Display-Multi-functional-TFT-Backlight-Transistor-Tester-p-1083042.html) for only \$30, shipped. It identifies and characterizes NPN and PNP transistors, capacitors, resistors, diodes (including Zener diodes), N-channel and P-channel MOSFET, IGBT, JFET, triacs, and batteries.

This isn't the first smart component tester to hit the market, but the unique thing about this unit is that it has a graphical display that not only identifies the type of component that you've connected to it, but also draws the schematic symbol of the part. You can see a video of this tester in action at <https://www.youtube.com/watch?v=07FH6tjzwWg>.

Make your Raspberry Pi into a desktop PC

Newark/element 14 will soon start selling a kit of part that will make it easier to turn your Raspberry Pi into a desktop PC (https://www.element14.com/community/docs/DOC-83477?CMP=e-email-SEPO-210317-e14PI&et_cid=28941683&et_rid=1231362216&cmp=). The kit includes:

- Intelligent and Safe Power Controller
- Interface to connect mSATA SSD (upto 1TB)
- Real Time Clock to keep track of time
- Heat Sink
- Enclosure

They don't list the price just yet, but this might be what I need to actually make use of the Raspberry Pi 3 I bought several months ago.

If you have one of these gadgets, or buy one in the future, please let me know how you like it. I'll put your review up on my blog, so that everyone can benefit from your experience.

When he's not drooling over electronic gadgets, Dan blogs about amateur radio at KB6NU.Com, writes the "No Non-sense" amateur radio study guides, and teaches ham classes. You can contact him by e-mailing cwgeek@kb6nu.com.

Simulated Emergency Test

By Rob Freeburn, K6RJF, Assistant Section Manager, Training

San Diego ARES will conduct a Simulated Emergency Test (SET) training event on Saturday, 4/22/17, from 0800 to 1200. The SET is a “comms only” drill with no deployments. We will update this plan as we refine details.

All San Diego Area hams are invited to participate.

The purpose of the SET is to flex the ARES EC Organization and the ARES Comm Plan (link below). Net Controls will be home based. A small team will activate the ARES Room at the MOC. Several ECS are not available on the day of the SET, so we will rely on Assistant ECS to run their area nets.

Timeline for Saturday, 4/22/17:

0800: Winlink operators send SDG check-in message form to SDG-RESOURCE and SDG-MOC. Net Control (SDG-RESOURCE): XE2/N6KZB

0800: HF 75M and/or 40M Net coordinated with County CERT drill at Cuyamaca College. Planning with W6CAW. Net Control: TBD

(Note: Out-of-area check-ins are welcome.)

0830: 6-Meter Net. Net Control: TBD

0845: 220 MHz Net. Net Control: TBD

0900: All Hams (including non-ARES Hams) check in with their neighborhood ARES Emergency Coordinator (EC) on the repeater designated in the ARES Comm Plan by their EC. Hams who do not have an EC should

check in with any EC they find on the air. ARES will appoint “ushers” to monitor PARC 146.730 and Lyons Peak 146.265 repeaters to help guide Hams to a repeater used by an EC. There are no nets planned for the 73 and 265 machines.

All Hams check in with as many ECS as you can find on the air.

0930: All Hams switch to a simplex frequency designated in the Comm Plan by their EC for simplex check-ins with their ECS.

1000: End of SET.

Prior to the SET, Net Controls and/or ECS should request approval from repeater owners for use of their respective repeaters during the SET training event.

ECS are encouraged to add injects for their local areas and to designate net controls to assist them as they would during a real emergency.

Other organizations (such as CERT, Skywarn, and Red Cross) are welcome to participate in the SET, as they see fit.

Point of contact for questions is Rob K6RJF <k6rjf.rob@gmail.com>

Link to the ARES Comm Plan: http://www.sdgares.net/dynamic/library/commplan/files/ARES_Comm_Plan_10-1-16_.pdf ⚡

QRM



INTERNATIONAL STYLE ON-FOOT T-HUNT

Saturday May 6th, 2017

Lindo Lake County Park, 12660 Lindo Lane, Lakeside, CA 92040

Sponsored by the San Diego T-Hunt Group & CQ Magazine World Wide Fox Hunting Weekend

Starting times will be 10:00 AM to 2:00 PM at 5 minute intervals. If you start at 2:00 you will have until 3:30 to complete the course. **NO REGISTRATION FEES!** There will be 5 hidden T's using the MOE-MOI-MOS-MOH-MO5 format. You will be issued a "Punch card" and there will be orange & white flagging tape at each punch located close to the T's which will be concealed. Antennas will all be vertically polarized with approximately the same radiated power from each "T". This will be a very flat and short course compared to past hunts! For information on "International Style Transmitter Hunting" you may go to Joe Moell, k0ov's excellent website..... www.homingin.com/intlfox.html We will have limited equipment for loan for those that do not have small 2-M beams. Bring a connector to go from your HT antenna connector to a BNC cable (Chinese HT's not recommended). There will be experienced Hams present to demonstrate techniques for those that want to learn about "On-Foot" Amateur Radio Direction Finding (ADRF) and a "Practice T" to experiment with before you start the course. You do not need a Ham Radio License to participate! You will be issued a map of the area with major features delineated. A compass, clipboard and pencil may be handy to plot bearings with. Dress appropriately and plan on taking water with you while hunting. There are several restrooms in the Park.

A BBQ is planned for about 3:00 PM for those interested. We will have burgers & hot dogs, buns, condiments, potato salad, drinks, chips & salsa. BBQ donations can be made on site. For information contact :

Joe Corones, N6SZO @ H-858.484.3582, C-858.603.5545, jcorones@gmail.com OR... ..
Joe Loughlin, KE6PHB @ H-619.461.7845, C-619.403.3149, ke6phb@cox.net

Directions: From Interstate 8 take Hwy 67 North and from E/B 52 take Hwy 67 North to the Winter Gardens Blvd. exit staying to the right. Immediately after you turn onto Winter Gardens make a left on Woodside Ave. and go straight until you hit the Park, about 6-7 streets. The road curves to the right and then to the left, after the left curve turn into parking lot on your left by the VFW and Park entrance. Look for signs/banner for T-Hunting towards the back end of the parking lot. Coordinates are 32° 51' 24" N, 116° 55' 07" W.

COME OUT AND EXPERIENCE A DIFFERENT ASPECT OF HAM RADIO

