RF

ORANGE COUNTY AMATEUR RADIO CLUB, INC.

VOL. LXVI NO. 6 | PO Box 3454, Tustin, CA 92781 | June 2025

The Prez Sez...
By Dan KI6X

Time for Field Day! We are a club that has various speakers at our meetings to try to give all members something during the year that they can get something out of. Field Day (FD) brings out many of our members and many guests to support the effort and/or to learn more about the event and radio operating in general. We have stations being manned full time at high rates of contact speeds, stations on "slower" bands not working the contacts as fast, and the Get on the Air (GOTA) station to assist new hams and those that have not operated much to get on and make some contacts. Please consider at least stopping by and seeing what is going on. As always, we need extra help with set-up (Friday afternoon 12-5 PM) and tear-down (Sunday 11-1PM).

See the FD details elsewhere. My picture this month is one of my pictures from last year's FD. Hard to explain everything we set-up so again, come by in Huntington Beach for a look. I have helped the club in FD well before I was a member. With W6ZE I have spent multiple times at the Los Alamitos Reserve Base, Knott's School next to the Berry Farm, and now two different schools in Huntington Beach. The club has also been at the Tustin Base , which I never was able to attend, and I have been to the Boy Scout reserve in the hills just up the 57 freeway. I also planned many FDs at the company Recreation Center with the Rockwell-Anaheim club (gone). There are many more operators that are way more addicted than I with FD and to them it is all consuming. I ask you with each newsletter to at least skim through the Minutes of the Board Meeting and also the General Meeting if you missed it. You can see the speakers that are coming up and other business handled as a club.

- Dan Violette, KI6X
President

NEXT GENERAL MEETING

The OCARC presents

"Field Day Preparations"

June 20th, 2025, at 7pm
at the
American Red Cross
Orange County Chapter
Santa Ana, Room 208

NEXT BOARD MEETING

Saturday, July 5th, 2025
See www.w6ze.org for more info

In This Issue

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Monthly Events

Membership Meetings*
Time: 7:00 PM
When: 3rd Friday of each Month
Red Cross Orange County, Room 208
600 N Parkcenter Dr, Santa Ana
(Replaced by the Christmas Party in December.)

Board Meetings
First Saturday of each Month
Board will handle Club business now IN-PERSON.

Club Nets (Listen for W6ZE)

10M ~ 28.375 MHz SSB
Wed- 7:30 PM - 8:30 PM
Net Control: Corey, KE6YHX
Alternate Net Control: AJ, W6OTO

2M ~ 146.55 MHz Simplex FM
Wed- 8:30 PM - 9:00 PM
Net Control: Corey, KE6YHX
Alternate Net Control: AJ, W6OTO
Echolink Node: KK6TRC-L

75M ~ 3.883 MHz LSB
Tue @ 8:00 PM
Net Control: Corey, KE6YHX

Other Nets

Catalina Amateur Repeater Association (CARA)
147.090 MHz (+0.600 MHz) No PL
Monday - Friday
9:00AM & 9:00PM
Prg. Director. Tom W6ETC
COME JOIN US

OCARC 2025 DUES:

Membership period is:
1 January to 31 December

Individual New or Renewal:	$30
Family New or Renewal:	$45
Teen New or Renewal:	$15

***New Member Dues** are prorated quarterly and includes a badge:*

Additional Badges[1]	$3

Use one of our interactive online forms to calculate current prices, join, renew, or order badges:

https://www.w6ze.org/FormsShortcut.html

[1] $3 or less + mailing. See form.

RadioActivity
June 2025

Upcoming Activities:

June

- ***ARRL June VHF Contest:** 1800 UTC Saturday June 14 through 0259 UTC Monday June 16.
- **Kids Day:** 1800 UTC through 2359 UTC Saturday in June 21.
- **Field Day**: 1800 UTC Saturday 28 through 1800 UTC Sunday 29.

July

- **RAC Canada Day Contest:** 0000 UTC through 2359 UTC Wednesday July 1.
- **Marconi Memorial HF:** 1400 UTC Saturday July 5 through 1400 UTC Sunday July 6
- **IARU HF World Championships:** 1200 UTC Saturday July 12 through 1200 UTC Sunday July 13.
- ** **North American QSO Party (RTTY):** 1800 UTC Saturday July 19 to 0559 UTC Sunday July 20.
- **RSGB IOTA Contest:** 1200 UTC Saturday July 27 through 1200 UTC Sunday July 28.

* Indicates club entries are accepted
** Indicates team entries are accepted
Note: When submitting logs for ARRL Contests indicate your club affiliation as "Orange County ARC"

State QSO Parties:

- **West Virginia QSO Party:** 1600 UTC Saturday June 21 to 0400 UTC Sunday June 22.

Repeating Activities:

- **Phone Fry** Every Tuesday night at 0230 UTC to 0300 UTC Wednesday
- **SKCC** Weekend Sprintathon (Straight Key CW) on the first weekend of the month after the 6TH of the month. 1200 Sat. to 2359Z Sunday.
- **SKCC** Sprint (Straight Key CW) 0000Z to 0200Z on the 4th Tuesday night (USA) of the month.
- **CWops** Every Wednesday 1300 UTC to 1400 UTC, 1900 UTC to 2000 UTC and Thursday 0300 UTC to 0400 UTC
- **K1USN Slow Speed Test:** (CW, 20WPM Max.) Every Friday 2000 UTC to 2100 UTC Every Sunday night at 0000 UTC to 0100 UTC Monday
- **ICWC Medium Speed Test:** (CW, 25WPM Max. Every Monday 1300 UTC to 1400 UTC 1900 UTC to 2000 UTC and Tuesday 0300 UTC to 0400 UTC

OCARC Club Nets:

- **75 Meter Net:** Every Tuesday night at 8:00 pm to 8:30 pm Local Time. SSB 3.883 MHz
- **10 Meter Net:** Every Wednesday night at 7:30 pm to 8:30 pm Local Time. SSB 28.375 MHz
- **2 Meter Net:** Every Wednesday night at 8:30 pm to 9:30 pm Local Time. FM Simplex 146.55 MHz

Other Nets:

- **Net-AT-9:** Wellness & Support Monday thru Friday 9:00 am and 9:00 pm Local Time 147.090 MHz (+600 MHz) No PL

Other Links:

ARRL Contest Calendar
VOACAP Online for Ham Radio

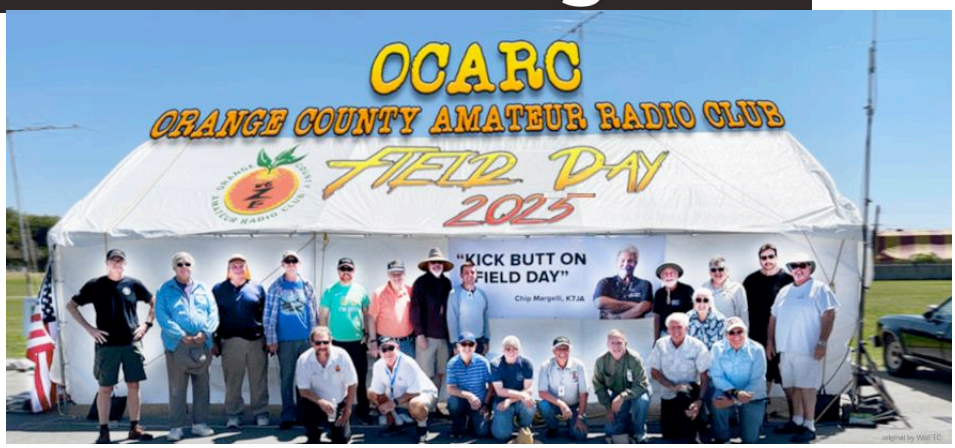
Send an email to *Ron W6WG, w6wg@w6ze.org to have your favorite activity or your recent RadioActivity listed in next month's column*

ARRL FIELD DAY

RADIO CONNECTS

FD25

www.arrl.org



Where??? Spring View MS at 16662 Trudy Lane, Huntington Beach, CA

When??? June 28 & 29 (Setup is on June 27 and everyone is invited)

OCARC Field Day 2025 Schedule

Setup Starting at 11:00 AM Friday June 27

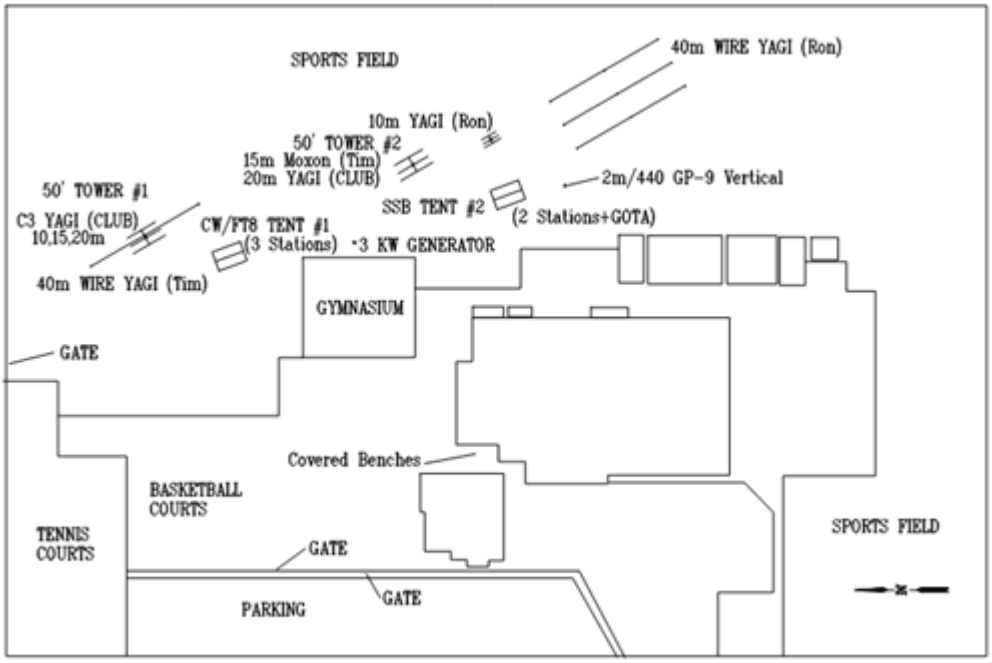
Operations start at 11:00 am Saturday June 28

Operations cease at 11:00 AM Sunday June 29

Group Photo and Teardown will begin at 11:00 am and we should be completed by 2:00 pm.

Please email Ron W6WG at w6wg@w6ze.org if you have any questions or suggestions.

OCARC Field Day 2025 Site Plan



SPRING VIEW MIDDLE SCHOOL 16662 TRUDY LANE, HUNTINGTON BEACH, CA

June 7 2025 OCARC Board Meeting

The OCARC board meeting was held at the Streamliner Lounge, 186 N. Atchison St. Orange and was called to order by President Dan KI6X.
A quorum of Board members were present. Visitor – David N3BKV

Directors Report

Treasurer Report: Tim N6TMT reports little changes this month with $4500 in checking, about $1800 in PayPal. Total funds around $13,000 and cash box approximately $552.
Membership Report: Ron W6WG reports we have 107 members with 3 Honorary Members; all dues have been paid.
Activities Report: Corey KE6YHX reports he has been in contact with Mimi's Restaurant to confirm plans for our Christmas party, 5:30 to 9pm on Dec 5 2025 will send out menu choices when we confirm attendance. Corey also is gathering items for our next opportunity drawing.
Technical Report: Joe KM6SVV reports he will meet today to pick up a brand-new item donated BTech BF-F8HP Pro by Micheal J Newell which will be a great raffle prize.
Publicity Report: Dan KI6X has been in touch with AJ W6OTO who has written a nice press release for the Huntington Beach News about our upcoming Field Day June 28th (Saturday) to June 29th (Sunday) he has also updated social media, Facebook, ARRL etc. AJ will bring more of our club's brochures to HRO. A need for more business cards was discussed for all members to carry to offer to prospective members.
VE sessions for amateur radio licensing continues prior to our monthly club meetings at 5:30p under the guidance of Ken W6KOS.

Club Monthly Planner Review

Ron W6WG has passed around a Field Day schedule and held a zoom on May 13, 2025 to confirm positions, need for set up equipment on Friday June 27th and tear down on Sunday. Several members have offered their trucks to help bring equipment.
SI 100 is due August 1st of even years so not due this year. The yearly PO Box Mail is due in September 2025.

Old Business

Newsletter Editors Report
June: AJ W6OTO, July: Nicholas AF6CF, August: TBD
September: Ron W6WG

Speakers/ Entertainment
June: Field Day preparation will also be discussed. David N3BKV (with help from Nicholas AF6CF) may talk about their visit to the Dayton Hamvention.
July: Tim N6GP reports KI6NAZ will give a presentation on HR Crash Course in person.
August: TBD

Field Day 2025 status: Ron W6WG will continue to update members and finalize plans during our June monthly club meeting. A budget of $750 has been planned for expenses, tents, etc. Discussed possibilities of needing back up plans in case of inclement weather conditions. Tents will be about $350.

New Business

Discussion was held regarding using Zoom for our meetings, as some members who are unable to physically attend would enjoy the presentations. If presenter is on Zoom then members will get a link to join the Zoom presentation. Non-Zoom presenters (those in person) will be also presented on Zoom with Board discretion (July speaker planned to also be on Zoom).

Good of the Club

Nicholas AF6CF suggested maybe providing a presentation on their remote station, how to start it up and set up and maintain, and may be planned for September.

An adjournment was voted on and agreed at 9:32.

General Meeting May 23 2025

- The meeting began with the Pledge of Allegiance.
- Everyone in attendance took a moment to introduce themselves.
- Tim N6GP gave a very interesting talk regarding the Titan Missile Museum in Green Valley AZ, near Tucson. He provided a slide show and some videos as this site was in active use with 54 missiles in place until an agreement was made with Russia and was deactivated in 1984. May 1986 the museum opened its doors to the public and then in April 1994 the site was designated a National Historic Landmark. The site also has an opportunity to use its discone antenna to broadcast and listen to ham radio. Tim gave parameters of the times/dates of week this is available. Tim also gave an interesting talk on using the 6 meter bands, more hams seem to be using this more, using 50.313 or 50.323 FT8 mode. Also discussed using troposphere conditions to bounce signals, meteor scatter can be used as well. Sporadic E may be used especially around the summer solstice. Tim also gave a run down of the VHF contests for this year and gave members a map of grids for contesting.
- After a short break the meeting continued with club business.

Business Meeting

- A quorum of club members were present.
- Tim N6TMT Treasurer reports little change in funds at present with $65 added due to new members.
- Corey KE6YHX Activities, reports he has been in contact with Mimi's restaurant and now has reservations for the Christmas party for Friday Dec 5, 5-9 pm, 2025.
- Ron, W6WG Membership reports we now have 106 members with 3 Honorary members. We had 20 members in attendance.
- Ron also passed around the schedule for field day which is June 28 to June 29, asking for members to fill in as they are able. Friday June 27 members are needed to help set up the antennas, tents etc.
- Nicholas, Director-at-large, reports he went to Ohio for a ham fest, which he enjoyed and found new equipment. He also went to the swap meet, which was very good.

Ask the Elmer

- "Ask the Elmer" was offered with experienced members encouraging the new hams in attendance tonight.

Show and Tell

- Charlie KM6KCK brought a homemade CW key to demonstrate just using items around the house.

- Tim N6TMT demonstrated CW and some various ways to learn this mode, and suggested using HamRadio solutions as a way to practice.

Good of the Club

- Ken, W6KOS continues to offer VE testing prior to our monthly club meetings at 5:30, Also assisting with the tests are Charlie, KM6KCK, Chuck AK6JT, Fred W0PE, and Arnie N6HC. Tonight 4 passed with 3 technicians and 1 general.
- 9:53 Motion to adjourn made, seconded, and passed.

Submitted by Joyce KN6UKJ.

The Beginning of a Friendship

A Mike and Carol Adventure (#1)

[Part II of III] ***Mischief at the Outer Marker***

Previously: Carol, an electronic experimenter and Mike's new next door neighbor, was receiving interference from an unknown radio signal on a project she was developing. Together, Mike and Carol had just located the source of the interference to be a transmitter located adjacent to Gilbey's Park. Surrounded by shrubs, and protected by a barbed-wire topped chain-link fence, this transmitter site was unknown to Mike, though it was only a few blocks from his home. As Mike and Carol turned to leave the site, they found themselves looking down the barrel of a mean automatic pistol held by a meaner looking man.

In a voice that was not loud, but never the less quite commanding, the man with the gun barked, "FBI! Stand still, and keep your hands in plain view… And point that flashlight towards the ground." The second command was directed towards Carol.

He had turned on his own flashlight - police issue, and tucked it under his gun arm. He took a handheld radio from his belt and talked briefly into it. Mike couldn't make out what he said because an airliner was passing overhead. Mike happened to look down; in the center of his chest was a green dot from the gun's laser sight. He slowly took a short step sideways, but the dot moved right with him.

"Stand still!" barked the man.

"What have we done?" asked Mike, his voice breaking.

"Quiet," insisted the man. "You'll get plenty of chance to talk in a while."

The shrubs rustled and two more people in blue wind-breakers appeared. One was a rather attractive woman, the other a slender man in his late twenties.

"I caught these two acting suspiciously here where the fence had been cut," the mean-looking man told the two newcomers. The young man took the flashlight from Carol's hand saying politely, "Your flashlight ma'am." The lady then bent down to get something from the bag she was carrying. On the back of her blue wind-breaker were the words FBI in large yellow letters. She arose with a fancy camera in her hand.

Mike and Carol both gave a sigh of relief; it appeared these were real FBI agents and not criminals who were planning them immediate harm.

After the lady FBI agent took several photos with them at the scene, Mike and Carol found themselves in handcuffs and in the back of an unmarked police car. The mean-looking FBI agent was seated in front beside the driver who had been waiting in the car. The other two agents evidently were continuing to examine the scene where Mike and Carol had been apprehended.

None of Carol's nor Mike's questions, such as: "Where are you taking us?" were answered. It didn't take long to discover their destination though; they were turning into the County police facility. Mike relaxed a bit; he had spent a lot of time here over the last year as part of a civilian communications team that the police

had formed. People knew him here, and he couldn't think of anything that Carol or he had done that was against the law; they had never left the park property.

At the police station the two youths were led directly to an interrogation room and were questioned for almost two hours by the FBI agent and his partner, who was the driver. Mike tried to answer their questions truthfully, but found himself stammering from fright. Carol was much cooler, and explained everything that they had done that evening. She also told why they were trying to track down the unknown signal. The questioning was very repetitive, and the FBI kept asking about their friends and where they had been during the past three nights. The interrogation ended when Sgt. Tough of the local police entered the room. He took the agents aside and whispered with them for a few minutes. They all seemed to reach an agreement, and the FBI agents left nodding. After they left, Sgt. Tough had some sodas and fruit brought in for the kids and told them to wait in the interrogation room for a while and he'd be back. They heard the door lock as he left.

Carol and Mike sat in silence drinking the sodas and picking at the fruit, though both had little appetite. "I wish I knew what we were supposed to have done," Mike said, finally breaking the silence. "There must be something very special about that radio site." Carol just nodded her head; her blue eyes were red with tears.

A quarter hour after he had left, Sgt. Tough came back in. Mike knew the Sergeant as he was the liaison officer for a civilian communications group that Mike belonged. Sgt. Tough had always seemed a funny name to him, especially because the Sergeant always seemed so soft spoken and gentle. Seeing him today conversing with the FBI agents, Mike realized that he must be a lot tougher than he showed.

"You kids can go home now; your parents are waiting outside. I want you to come back tomorrow morning with your parents at 8 AM, and we can talk some more. Please don't be late, I have a busy day scheduled".

"What about our bikes and the stuff we had with us?" asked Mike.

"I have your bicycles and other stuff locked up in the evidence room," Sgt. Tough answered. "You can pick the bicycles up in the morning. We may need to keep the other stuff a little longer, depending on the FBI investigation."

Mike and Carol got into their parents cars for the short drive home. As Mike was getting in he heard Carol's father say, "Your uncle told you what would happen to you if you hung around radio hams!"

"Daddy, we didn't do anything illegal. And Mike is a very nice boy," he heard Carol say defiantly.

Mike's drive home was quiet. Neither of his parents said a word to him the whole way. When they got to the house it was approaching midnight, and his Dad ordered him to go upstairs, get ready for bed, put on his robe and meet them in the den.

Showered and dressed for bed, Mike came downstairs. His mom and dad were each sipping on a glass of brandy when he entered. They looked more worried than angry. He sat in

a vacant chair and his mom handed him a cup of hot lemon green tea.

"You evidently had quite an adventurous night; would you like to tell us all about it so we won't feel so upset at having to pick you up at the police station in the middle of the night?" his dad asked.

Mike told them what had happened, leaving nothing out. He still had no idea why they had been arrested. When he was done with his story, he was sent straight to bed but didn't get much sleep. More than once he thought he heard shouting coming from the estate next door, and realized he was fortunate to have such understanding parents.

The next morning found Carol and Mike, along with their parents, in Sgt. Tough's office. Carol's eyes were red and swollen, as if she'd been crying all night. Her father kept shifting his eyes between her and Mike; his gaze appeared most unfriendly, especially when focused on Mike.

Sgt. Tough entered the office and sat behind his desk. He had some papers in his hand that he began to read over. The room was extremely quiet as everyone sat very still. The only noise was some rustling when the Sergeant put down one sheet of paper and started to read the next. Finally, he looked up and said to the youths: "No charges are being brought against either of you. The investigation has shown that you did nothing illegal except possibly being in the park after closing."

He then turned to the parents and said; "Thank you for your cooperation. We're sorry that your teens had to be put through last night's ordeal, but they were acting suspicious and were unknowingly interfering with an FBI surveillance. You can go now; I'll sent your children home on their bicycles after I've had a few more words with them."

After their parents had left, Sgt. Tough said, "Again, let me say how sorry we are about last night. The FBI had set up a sting operation and you two walked right into it. I just hope you didn't scare off the real perpetrators.

"Mike, last night you wondered if there was something special about that radio site. Well, there really isn't. It's part of the instrument landing system for the County Airport. It is a marker beacon, specifically the outer marker beacon that tells the pilot he is at a point where he should begin his final descent to the airport. The instrument landing system, or ILS, has two radio beams and two or more marker beacons. One radio beam, called the localizer, allows the pilot to align the plane left to right with the runway. The other beam, called the glideslope, tells the pilot if he's above or below his proper altitude as he descends to the runway. The outer marker is a simple beacon sending continuous dashes that tells the pilot he is at a fixed position at a given distance from the airport and, if at the altitude marked on the airport's approach chart, he is where he should be to intercept the glideslope beam. A similar marker beam, sending alternating dots and dashes at a higher audio tone, is called the middle marker. It signifies the boundary of the airport. With the ILS, a trained pilot can fly the beams and land at the airport when the weather is bad and the ceiling and visibility make a visual approach dangerous, if not impossible.

"The localizer and glideslope transmitters are on the airport property and are quite secure. The middle marker beacon transmitter is also usually located within the security of the airport boundary. However, the outer marker transmitter is miles away from the airport and is usually located on a small plot of fenced-in land. It is not so well protected."

Sgt. Tough looked directly at the two youths and continued, "Over the past several months, some person or persons have been sabotaging the outer marker beacon at numerous airports across the State. Three nights ago, an intrusion alarm for the outer marker building sounded at the County Airport control tower, and the police were sent to investigate. When they arrived, they found a hole cut in the fence and bolt cutter marks on the padlock to the building. They felt they had scared off the vandals, but since this is federal property, the FBI was called in and they set up a sting in case the criminals came back. All they caught were you two; but you can see why the FBI showed so much interested in your actions at the park; especially since you went to the exact same place in the shrubs where the breach in the fence had occurred."

"Why is the FBI so concerned?" asked Carol.

"The truth is, we think this is leading to an act of terrorism. Already, over in Essex County, one outer marker was reprogrammed to send false signals during a rather stormy night. It confused the copilot, who was flying at the time, and if he hadn't been professional enough to cross check his position quickly, there might have been an accident. Two hundred souls were onboard that aircraft."

Mike and Carol looked at each other in disbelief. Who could do such a thing?

"One last thing," said Sgt. Tough, and he spoke briefly into his intercom.

A minute later the door opened and the big FBI agent entered. He carried the confiscated equipment they had used to find the interference source, which he put on the Sergeant's desk. "I'm sorry about last night.," he said. "I hope Sgt. Tough has explained to you our concern. He had good things to say about you Mike, and your participation in the civilian communications group he heads. The FBI thanks you for your cooperation." He then proceeded to hand them each his business card. "My name is Senior Special Agent Gains. I've added a direct phone number on the back. Call me if I can ever be of assistance to you.

"Oh, by the way, I've been in the FBI for more than ten years now and though I've arrested many criminals, I've never shot one! You two were reasonably safe with me last night, unless you had decided to try something really stupid." He grinned at them and went out the door.

"Agent Gains is really a good officer." Sgt. Tough said. "I fought with him over in Desert Storm, and he and I have been friends ever since. He may have never shot anyone, but I once saw him pull an armed bank robber off a moving motorcycle. It was probably the quickest arrest in the history of the FBI! I know he feels bad about what happened with you last night, but he was just doing his job. He's a top-notch professional."

As they pedaled home from the police station, their equipment safely stowed in

Mike's saddle bags, Carol commented, "Well, I've known you for less than a week and already we've had quite an exciting time. Still, there's two things that bother me about last night."

"What's that?" asked Mike, remembering the disappointed look on Carol's face after they took the third bearing the previous night.

"First - We found the interference source almost due west of my house. And yet my equipment said it should be at a bearing of 300°. I spent so much aligning the equipment that I can't believe that there is an error of 30° in the system.

"And secondly - How did the Sergeant know you made that comment that the radio site must be very special? I was the only one in the room with you at the time."

Mike thought for a minute and then said; "There was a mirror in the interrogation room, remember? I bet it's one-way, and Sgt. Tough was listening to our interrogation and to what we said to each other after the FBI agents left.

"As for the bad bearing - perhaps, when we find the reason why the tracker's front ends are producing harmonics, we can solve that problem too."

Carol only shrugged at his reply.

That day, while Carol's parents kept Carol in the house, Mike fired up his computer and searched for information on ILS systems on the web. He soon learned that besides the outer marker there are three other types of ILS marker beacons: The middle marker that Sgt. Tough had mentioned, an inner marker and a back-course marker. The last two are used only by certain airports. All the markers transmitted on 75.000 MHz. The outer marker sends dashes at a tone of 400 Hz, the middle marker sends alternating dots and dashes at a tone of 1300 Hz., and the inner marker sends a string of dots at a tone of 3000 Hz. The rare back-course marker sends spaced pairs of dots. They all use an antenna that radiates an oval shaped pattern straight up. The transmitter that was causing Carol so much grief was running only three watts or less, he discovered. He hadn't yet found the tone frequency for a back course marker when the phone rang. It was Carol telling him that her parents were taking her away for a three day trip. Mike knew her parents thought he was a bad influence on her. Still, he liked Carol and looked forward to more adventures with her. Maybe even a real kiss!

The next few days went by slowly. Mike was surprised to find he was already halfway through his summer reading; what surprised him more was that he was enjoying the books. He had mentioned his summer reading list to Carol, and found that since she'd be joining him at Roslyn high school next fall, she had been given the same list. She said that she had already read all but two of the books on the list over the past year. He kept finding her an amazing young lady. Mike had suggested that they should spend some time together discussing the books.

Carol and her parents returned on the fourth morning. From his upstairs bedroom window he saw Carol get out and walk with her parents into their house. He waited for the phone to ring, but it didn't until almost 6 PM that evening.

"Come over after dinner if you can," Carol asked. "I think I may have a lead on my problem."

"What about your parents?" asked Mike; "I don't think they like me at all."

"It's okay," she replied, " I asked Senior Special Agent Gains and Sgt. Tough to explain that we were just in the wrong place at the wrong time. When dad found out we were in the shrubs looking for a source of radio interference for my project and not to make-out, he regained some of his composure and has allowed me to see you again. I think he still lacks respect for you and for hams in general, but maybe he'll come around after he knows you better. Especially, if you don't get me into anymore trouble with the police." she added kiddingly.

By the time Mike had finished dinner the weather had turned wild. Lightning was flashing in the sky, and rain was pouring down in torrents. Mike donned his rain coat, and ignoring his mom's comment to wear galoshes, he tore out of the house and across to Carol's. To his surprise, she answered the door and immediately took his wet rain coat to dry in the hall. She then led him to the basement.

"Here", Mike said as he handed her a small package, "I brought you some code tapes, just in case you want to learn the code and get a ham license. The code is no longer required, but all hams should be acquainted with it."

Back in her lab, Carol put the code tapes on a shelf, and they turned on the equipment and heard the steady stream of dashes come from the speaker.

"Why is your equipment working on 150 MHz?" asked Mike.

"I was talking to the CEO of NANEC where my uncle used to work, and I explained what I was trying to do. He told me that the company was granted an experimental license from the FCC for 150.00 MHz for a fifty mile radius, and that the company wasn't planning on using it in the near future. He felt my use of the frequency, though it was for receiving atmospheric noise only, could help them justify renewing the license. The FCC has a kind of 'use-it-or-lose-it' policy to their frequency licensing, and the plant doesn't want to lose that particular frequency. The CEO even offered me the use of their lab and test equipment if I needed it. After seeing the equipment my uncle left, I doubt there's much I would ever need to borrow!"

"How do you know the CEO of NANEC?" Mike asked.

"He's a long-time friend of my dad and uncle. When he started the company he asked them to be financial partners. Uncle Lanny agreed, but wanted to work in research and avoid a management position. My father also agreed and was initially CFO, but he resigned after the company got a good foothold, as he had other projects. He still consults with NANEC when needed. Mark, the CEO knows of my interest in electronics and has offered me an internship when I graduate high school; he even talked of helping fund my college education.

"Wow, that's great. You must come from a wealthy family!

"My great grandfather migrated from Sweden penny-less." stated Carol. "He worked his way

up in the oil business, and with later help from his son - my grandfather - they acquired a lot of land and oil wells."

She lifted one of the shields off the board and commented; "I measured the voltage on one of the gates of the FET RF amplifier, and it is way off on both receivers. Yet, I've checked the schematic and redid all my calculations and can't find an error." She handed him her notes and schematic and stepped aside to let him look over the circuit board.

Mike was grateful that she hadn't asked him to check her math; he was good at math, but she evidently was more advanced from what he saw in her notes. Looking at the schematic and then the circuit board, he could find nothing wrong at first. Then he saw it. "You've confused the color-code for 47KΩ and 470KΩ resistors. that's biasing the transistors near cutoff and a strong signal will be amplified non-linearly, causing harmonics to be generated. That could also be your calibration problem. The receivers might receive identically on 150 MHz but not on 75 MHz unless the two FETs cutoff at exactly the same point."

He looked up at Carol. She was red faced. She admitted that she was partially color blind in the yellow-orange range and must have read the color code on the resistors wrong. "I should have checked them with the ohmmeter. Let's change one and see if the problem goes away on that channel," she said as she picked up the soldering iron.

Mike handed her a resistor of the proper value from a bin of drawers mounted above the work bench. Knowing Carol was not perfect after all, made him like her even more.

In less than a minute the resistor was changed and the tracker was turned back on. The receiver they had just worked on no longer picked up the 75 MHz marker beacon signal. The other receiver still emitted a continuous stream of dashes. Carol was about to turn the tracker off again to replace the second resistor when the tone suddenly stopped! They both jumped at the sudden quiet. "The carrier is still transmitting," noted Carol, "or else there would be more noise coming from the receiver."

Just then the tone started up again. However, this time it was at a much higher frequency and emitting alternating dots and dashes. Someone had just changed the outer marker beacon to send the wrong signal and misguide pilots landing at the county airport on this stormy night.

[End of Part II of III]

Author's note: *"Let us know if occasional stories such as this one, involving ham radio, are of interest to you. Send a simple email to:*

rf_feedback@w6ze.org

with a Yes or No and any comments you want to add."

This story was written over 20 years ago, with some later modernization. Marker beacons have been being decommissioned around the world over the last decade or so, due to the advent of GPS and other technologies.

Part one of this story was published in the April 2025 issue of RF.

Amateur Radio License Testing Available!

W6ZE offers license exam sessions before our general meeting at the same location at 5:30 PM new licensees and upgrades. The cost is $15.

Requests for testing should be sent to Ken Simpson, w6kos@w6ze.org, or by calling 714-651-6535.

New OCARC Members
2025

JANUARY
- AK6AT Michael Porteous
- W6VLN Daphne Tsao

FUBRUARY
- NC6M Anatoly Ananovsky
- N6MG Milton Garb
- K6MKL Michael Berchtold
- W6NVI Carolyn Berchtold
- KN6WPB Thom Belford

MARCH
- KN6NXJ Harry Long

APRIL
- KO6ION Phil Sallaway

MAY
- N6GTQ John Gabler
- KO6JES Arshia Attar

JUNE
- KO6JOB Jon Hoover
- KG6LHK Robert Stone

Introductions from New Members

KO6JES Arshia

With 25 years as a data engineer navigating and managing oceans of petabytes of data, I'm now surfing the electromagnetic waves of amateur radio. I'm excited to explore the fascinating world of ham radio, particularly its critical role in emergency communications and off-grid networking. Complementing my data engineering background, I'm exploring wireless RF communication as an exciting extension of my technological journey.

My fellow hams might chuckle at my initial attempts, but remember: every expert was once a beginner who wasn't afraid to sound a little ham-fisted. KO6JES is here to prove that being a newbie is just the first step in becoming a seasoned operator - one potentially awkward transmission at a time!

As an engineer, I've always been hardwired to troubleshoot and find innovative solutions. Now, my new challenge is to delve into the fascinating world of ham technology, decoding ham radio technology with the same enthusiasm I once reserved for debugging complex data processes.

When I'm not working the bands, you'll find me balancing life with my other passions: capturing moments through photography, maintaining my Aikido black belt skills, and crafting the perfect espresso at my kitchen coffee station. Joining the Orange County Amateur Radio Club opens a world of learning, where I'll transform from a ham radio novice to a knowledgeable enthusiast. And I am very excited to join this incredible ham radio club.

KO6JOB Jon

Professionally I work in Failure Analysis, focused on the material/physical analysis of semiconductors. Outside of work I enjoy Computer games, table-top / board games, hiking, and I often find myself collecting other hobbies instead of pursuing them fully. Radio seemed like an appealing intersection of several of the hobbies I have gathered, such as wanting to delve further into building my own electronic circuits. After some low-level research into ham radio, there is much more to it than I initially thought. I am excited to learn more about what can become available to me and the interests it may spark.

N6GTQ John

I am a dedicated professional with a degree in electrical engineering and a rich history in developing safety systems for critical infrastructures such as power plants, chemical plants, oil refineries, and nuclear plants since 1987. My journey into the world of technology began at the age of sixteen when I started programming computers. Although I have held an extra class amateur license for many years, I have not been active. On a personal note, I am happily married, with two adult children and two wonderful grandchildren.

OCARC Membership Director
Ron W6WG, membership@w6ze.org

Cash Flow - Year to Date

1/1/2025 through 5/31/2025

Category	1/1/2025-5/31/2025
INFLOWS	
Badge	6.00
Donation	62.00
Dues 2025	600.00
Dues, PayPal 2025	1,518.00
Opportunity Drawing	119.00
Refreshments	41.00
TOTAL INFLOWS	**2,346.00**
OUTFLOWS	
Activities Supplies	100.72
Badge Expense	158.17
Food & Dining	32.90
PayPal Fees	78.66
Printing Brochures	265.80
Prize Expense	53.26
Refreshment Expense	112.19
Software License	59.88
Website	125.00
TOTAL OUTFLOWS	**986.58**
OVERALL TOTAL	**1,359.42**

IN THE KNOW WITH W6OTO

Issue 6

AI & Ham Radio

In the ever-evolving landscape of technology, ham radio has long stood as a testament to hands-on ingenuity and human connection through electromagnetic waves. For over a century, amateur radio operators have built communities, shared knowledge, and tackled technical challenges using relatively simple tools. But today, as artificial intelligence (AI) accelerates in capability and accessibility, an intriguing opportunity arises: What happens when we combine the tradition of ham radio with the power of modern AI?

AI is increasingly being used to optimize and augment many aspects of radio operations. One of the most immediate and accessible applications is signal decoding. Machine learning algorithms can now help decipher faint or noisy signals more efficiently than traditional filters and human ears alone. For digital modes like FT8 or PSK31, AI-enhanced decoding can reduce errors, improve throughput, and even predict optimal transmission times based on propagation forecasts.

Beyond decoding, AI-powered voice recognition and speech synthesis open the door to new modes of digital QSO (contacts). Imagine an AI assistant that logs your contacts automatically, identifies call signs in real time, and even generates natural-sounding voice responses for common exchanges. This could be especially helpful for operators with physical limitations or in emergency situations where speed and clarity are essential.

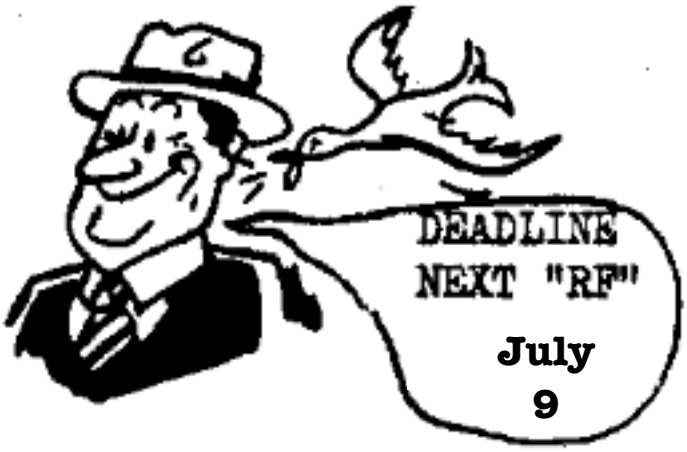
Propagation prediction is another area where AI shines. By analyzing vast datasets—such as solar activity, geomagnetic indices, and past contact logs—AI models can forecast band openings and suggest optimal times and frequencies to reach specific regions. Tools like these could evolve into intelligent scheduling assistants, helping operators maximize their on-air time.

AI can even play a role in antenna tuning. Neural networks trained on field data can identify and correct mismatches in real time or recommend adjustments based on signal metrics.

Of course, some in the ham community may view AI as a departure from the 'hands-on' spirit that makes amateur radio so special. But history shows us that the hobby has always adapted and evolved—from spark gaps to SSB, from CW to digital modes. The spirit of exploration, experimentation, and learning remains unchanged, even as the tools become more sophisticated.

By leveraging these new capabilities, we can introduce fresh minds to the hobby, tackle age-old problems with new solutions, and continue pushing the boundaries of what's possible on the airwaves.

P.S. This article was generated with the assistance of AI. How's that for a real-world test of human-machine collaboration?



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