

W6VIO Calling



Jet Propulsion Laboratory Amateur Radio Club
4800 Oak Grove Drive, Pasadena, CA 91109-8099



Volume 24 Issue 4

May 1995

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Vice President:	Jay Holladay, W6EJJ, 4-7758
Secretary:	George Morris, W6ABW, 4-0035
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WB6IEA Trustee:	Walt Diem, WA6PEA, 818-248-7525
W6VIO Calling Editor;	WB6TZS Trustee: Bill Wood,
	WB6FXJ, 619-256-5529

Meeting Notice

By Jay Holladay, W6EJJ

The next regular JPL Amateur Radio Club membership meeting will be held on Wednesday, May 10, at noon in 238-543. The meeting will mainly concern Field Day preparation. With your enthusiastic participation, the club has a good chance to win in it's category. **NOTE:** If you come to this meeting you will have a chance to win a \$100 HRO gift certificate. Club Board of Directors meetings are held on the fourth Wednesday of each month in 301-227. Everyone is welcome at both meetings; bring your lunch.

April Club Meetings

By George Morris, W6ABW and Jay Holladay, W6EJJ

The regular April JPL Amateur Radio Club membership meeting was held Wednesday, April 12 at noon in Room 238-543. Several announcements were made: A Galileo commemorative is planned for the end of the year. Bill Wood will produce the certificates for the Apollo special event QSL's. Jay Holladay encouraged participation in Field Day this year.

Greg La Borde made a presentation on the Club's packet radio capability. He described the present and future configurations of our system which includes two computers - one for the bulletin board node and one for the Internet gateway. A live demonstration of the packet system was conducted.

The regular Board of Directors meeting was held in Room 301-227 on April 26, 1995. A quorum was present. Vice President Jay Holladay chaired the meeting in the absence of Merv MacMedan. In the absence of Secretary George Morris, minutes were prepared by Bob Polansky and Jay Holladay.

Walt Diem distributed final copies of the club bylaws (as approved by ERC and published in March W6VIO Calling) to Board members, and copies will be provided to new members when they join the club. Walt received a round of applause

for his efforts to update the bylaws and get them approved by the ERC.

Bob Polansky reported briefly on the work party to be held May 6 and on preparations for Field Day.

Treasurer Jim Marr presented an extensive report. ERC approved a grant of matching funds totaling \$956. Jim summarized responsibilities for purchasing items in the budget. Door prizes will be offered at two meetings this year as provided in the budget (two at \$100 each). The Board approved a plan that these would each consist of a \$100 gift certificate from HRO.

Rick McKinney reported briefly on W6VIO Calling items for Bill Wood. Bill will send the May issue electronically direct to JPL Duplication Services for printing.

Walt Diem reported on the recent meeting of the 220 Spectrum Management Association. The test sanction for the proposed new WB6IEA frequency has not been received yet. The 220 SMA has obtained a \$2 Million liability insurance policy for officers and frequency board members through ARRL. The new 219-220 MHz allocation for digital communications will be coordinated locally by the 220 SMA - a temporary committee has been formed for this purpose. Next meeting will be held on July 15 at JPL.

Walt Mushagian reported on the emergency communications exercise to be held at the JPL Emergency Operations Center on May 4. Several JPL ARC members will alternate at net control during our participation in this event.

Jan Tarsala introduced the subject of the W5YI petition to FCC requesting that one-way transmissions (bulletins, code practice, etc.) be banned on the HF bands. After considerable discussion the Board voted that the Club file comments opposing this petition, citing both the Club's specific interests (space-related bulletins) and the interests of the general amateur community in retaining the above services. Jan will draft comments and circulate them to the Board for review.

Permission to copy is granted provided that credit is given to "W6VIO Calling."

N6NOtes

By Merv MacMedan, N6NO

A year ago this month (May 20, 1994, to be exact) one of our club members, Elvia MacMedan, passed away from metastatic cancer of unknown origin that had spread to her brain. She was my XYL ("wife" to you newcomers), and her call was HK4CVV. I was not able to write this story a year ago, but now I feel I can share it with you.

Elvia courageously tolerated my ham radio obsession through many years of a very happy marriage that began in 1960. It was mostly a high speed CW thing that I did, with earphones. One year I upgraded my ancient CW equipment to phone and, now hearing real voices instead of bleeps and squawks, suddenly she started asking questions such as "what's a phone patch?" and could she talk to her Mother in Colombia, South America! Fortunately, Colombia is one of the more enlightened countries that has a treaty permitting third-party (non-ham) traffic, so talking to her mother through another ham's patch would be perfectly legal. I put up what was for me a "dream quad" antenna, and searched the bands for a ham in Medellin. I found one who was equipped with a phone patch, and after talking to her Mother for half an hour this way through my station, she was hooked.

Elvia always remained a loyal citizen of her native country, Colombia. In those days, one had to be a US citizen to qualify for an FCC license. In 1972 I took the whole family for a visit to Colombia not only to visit her family, but also to meet in person the many ham acquaintances we had spoken with on the air. Elvia also prepared for her ham test, and passed it in Bogota. Talk about service! The next day her Colombian license was waiting for us in the hotel!

On that trip, I operated with a reciprocal license in Colombia from friends' stations in Medellin (HK4), Bogota (HK3), Santa Marta (HK2), and a mini-DXpedition from the island of San Andres (HK0). When she returned to the states Elvia got her FCC reciprocal license and began operation as HK4CVV/W6. She could now operate as a control operator herself even when I was not home!

Elvia made regular schedules to talk to her mother and other friends once a week and even today I am impressed at the reliability of those schedules. Using a 2-element quad at 50 feet and about 1 kW PEP (on 21 MHz or 14 MHz) I estimate that the propagation was consistently successful about 90% of the time over a number of years. It was customary for her to reciprocate by giving phone patches to these and other Spanish-speaking stations that she heard calling "CQ Los Angeles." This was particularly true when the operator did not know English very well -- they were overjoyed to work with Elvia because she could help them in Spanish.

One such encounter led to a lifelong friendship between us and another Colombian-American family. Elvia answered a "CQ Los Angeles" from a Colombian station who wanted to talk to his daughter in LA. This led to weekly phone patches to keep the family in touch over many years. Some years the

couple resided in Colombia, others in California, but one set of parents was always in California and the other was always in Colombia. At one point Elvia provided weekly phone patches for the husband (in Colombia) to speak with his mother (in Palos Verdes) who was slowly dying of cancer, tracking her even to her last days in the hospital. This friendship endured for over 20 years and included many in-person, multi-day visits with both the US and Colombian families.

Elvia was also one of the pioneer users of our 220 MHz FM repeater when it was placed in operation in 1978. In fact, she assembled and soldered the first CW ID'er circuit board that went into the first JPL home-brew repeater. We were trying to populate an unpopulated band and she would pass the hours talking to another colleague on the repeater, Paul, K6SUE, trading recipes. Of course, she got to know when I was on my way home for supper when she heard me calling her from the car as I left JPL. She had her 220 MHz radio in the kitchen, and it always ran 24 hours a day. She was not a big talker but she was always there if someone truly needed help. Some of you remember her for the Colombian coffee (and American Donuts) she provided at the annual "tune-up clinics" that Mike, WB6TEB, used to hold to check our frequency, deviation and limiting on our VHF rigs, and to make minor repairs.

To some, Elvia had a strange, unidentifiable accent. Her native language was Spanish, of course, but she did not have the customary Spanish accent because she learned her first English phrases from a Jamaican English instructor in Colombia. Then she came to New York where she learned her REAL English (and we all know how New Yorker's talk -- I am one too!) But she pressed her bilingual abilities into valuable service handling emergency traffic for several Central and South American earthquakes.

One story she was proud to relate was about a Guatemalan couple in California that was on the verge of panicking when they could not get through by phone to their relatives right after the Guatemalan earthquake a number of years ago. They phoned Elvia asking if she could make an inquiry for health and welfare. She did, by locating (on the 20 meter band) a ham station set up at the Red Cross Headquarters near the damage zone. Half an hour later the station replied to her message to say they had dispatched someone by foot to check, they had located the family in question, and they were safe. Elvia phoned the party back here in California, who, with much relief, told her she had saved them from flying to Guatemala in the next few hours to search for their family!

Elvia kept her weekly schedules on 15 meter SSB with her Colombian "colegas" over many years. She was a good phone operator, but she became discouraged from the increasing ungentelemanly conduct of many US hams who created intentional QRM (heterodyning, cat calls, nasty remarks, sliding another QSO onto her frequency, etc.). She attributed it to the hams' growing discontent and intolerance of the Medellin drug problems (because her call identified her as a ham from Medellin and she appeared to be using a "secretive" language [Spanish]). In addition, the quality and

reliability of overseas phone calls had gone up considerably and the cost had come down, so under the circumstances the "landline" became a viable alternative to ham radio for chatting.

Somehow, when she gave up the hobby there was not much fun left for me either. We packed up the SSB station, stored it away, and replaced it with a computer. The only remnant of that busy, popular station is the quad antenna that still stands guard in our back yard, just in case the DX bug might bite again...

When Elvia died, Eileen McKinney, KA6DGV, wrote a lovely original poem in her memory. It was posted on the Section 317 bulletin board. Also, many JPL'ers contributed to a scholarship fund Elvia had established to help a deserving Colombian family's children get a college education they would never have been able to realize otherwise. In her name I want to thank you all for remembering this noble, classy, lady.

Before Elvia passed away, I asked her how she would like to be remembered. Her words are now on her epitaph: "Just a friend, always ready to help when needed." I think all her ham friends would agree.

Thanks for letting me share these memories about Elvia, a long-time club member and supporter who just a year ago became a silent key.

DX News

By Bob Polansky, N6ET

As is usually the case when sunspot activity slows, one has to look carefully for bands open beyond the shores of USA. This month is no exception. Review of "THE DX BULLETIN" shows propagation forecasts, which will give some advice on which days to play golf or watch TV instead. Remember that propagation forecasting is only slightly better than weather forecasting. The station you need may well be coming through on a day predicted to be "Disturbed." Enough said. This month's DX possibilities follow:

ANDAMANS - VU2JPS/VU7 has been reported on 14196 kHz at 0200Z. You might have some luck on the long path (over the South pole) at that time.

KERMADEC - G4MFW/ZL8 plans limited operation from 5 to 15 May. Look for him on 3798, 7080, 14195, 14260, and 21295 kHz. Hope he operates CW also, since that's one of the few I still need on that mode.

LESOTHO - 7P8SR hangs out on 40 CW in the evenings (0200 - 0500Z) since 80 meters has, for the most part, closed for the season. Look for him on the low end of the band.

MOROCCO - Several stations plan activity from here shortly. CN2GB, now through 10 May, and CN2SN, May 5 through 10. The first will use the callsign CN5I in the 6-7 May ARI Contest.

NEPAL - 9N1MWU should be active now through 10 May; although, I have seen no spots yet.

RWANDA - 9X/ON4WW has replaced 9X5EE as the most active station in this African hot-spot. He will be there

through the end of June. The only frequency he has been spotted on is 18070 kHz at 1920Z.

SAO TOME - S92YL and S92SS continue pretty active on 15 and 17 meter SSB, also on CW. They are loud and readily workable on the West Coast.

WAKE ISLAND - Look for AL7EL/KH9 from 17 through 24 May. Specific frequencies are 3505, 3795, 7005, and 10105 kHz, but operations are expected all the way up through 6 meters. W6VIO needs this one.

One other item: Even though 40 CW seems closed, there is still an occasional long path DX station calling CQ as late as 1500Z. I just worked a 7Q7 the other morning at that time from W6VIO. Perseverance works!

73 until next month,

May 6 Work Party

By Bob Polansky, N6ET

We are going to have another W6VIO Work Party on 6 May from 9 AM to noon. Great progress was made at the last two events, but we need to keep up the momentum if we are to have operational capabilities in place for the upcoming Galileo Commemorative operation later this year. In addition, we need to get a few things done in preparation for Field Day. The following list identifies the items we plan on working at the 6 May event:

- Clean up slow-scan station.
- Measure Phillistrand lengths; cut and assign to 67 ft. tower lengths needed.
- Cement caps on finished ends.
- Terminate last hardline on mesa, hold with Chinese finger grips, disconnect old hardline support.
- Clean up second tool box.
- Implement DX packet antenna and push-up pole.
- Cut 80-meter delta loop lengths out of #12 wire for Field Day.
- Service 2.2 kW generator for Field Day.
- Add PL-259 connector on one end of Coax length for Field Day.
- Start shortening hardlines into shack.

We'll work as many of these items as we have people to do them. In addition, we need to find a 4-drawer cabinet to replace the 2-drawer one we have. Can anyone help us on this? Finally, we need to get key access to one of the locks on the mesa gate. Apparently, our lock got removed. Anyone up to working this prior to 6 May? Hope to see you all there.

Newsletter Deadline: May 26 for the June issue. Your articles, ads, photos, diagrams, letters to the editor, or technical material should be submitted to the Editor at the return address shown on the last page of this newsletter.

Field Day, 1995

By Bob Polansky, N6ET and Jay Holladay, W6EJJ

Mark your calendar for June 24 and 25, this year's dates for Field Day. Our JPL ARC meeting on May 10 will feature a program on plans for Field Day 1995 and how we've fared in the past. Forms will be available for early sign-up for setup, operations, and tear-down activities.

Plans are well underway for this year's event. We are in the process of setting up a Field Day antenna clinic at Caltech on the afternoon of May 20. On Field Day weekend we need two vehicles with towing hitches to help get our equipment to the mountain top. We are also looking for CW operators for the Novice/Tech tent. We especially need volunteers who will be available on Friday, June 23 to help with setup beginning promptly at 11:00 AM. Please contact either of us if you can help with any of the above items. CU on May 10!



Jack Blindbury, (photo from Oct. '77 W6VIO Calling)

W6VIO: The Real Person!

By Mike Frantz, KM6QZ, Club Historian

Have you ever wondered how our club station got the call sign W6VIO? Well, the October 1977 issue of the club newsletter provides the answer, and it is an interesting story.

A former JPL'er by the name of Bob Biswell, W6MZR, became interested in amateur radio as a teenager during the mid-50's. When he received his license he told his neighbor and former scout leader about it. His neighbor was Jack Blindbury, whose call was W6VIO.

Actually Jack first became a ham during the 20's, but drifted away from the hobby. Later he got interested in the hobby again and was relicensed as W6VIO. But the story does not end there. Jack came to work at JPL during the early 60's, running the Electronic Stores for the lab. He was a major force in reestablishing the first radio club at JPL, originally called the JPL Radio Society. Jack became it's President and the club went back on the air with call sign WA6DKJ.

Jack was very active from his home station, especially with phone patches. He handled so many phone patches for the USS Frontier, a repair ship stationed in the Pacific, that he received a plaque from the crew of the ship in recognition of his efforts.

Jack left JPL in the mid-60's for another job. He became ill and passed away shortly after that. He was in his early sixties when he passed away in December of 1968. After Jack had left the club, interest and activity declined to the point where it was in a state of "suspended animation."

During the process of rebuilding the club, which took place between 1968 and 1969, Walt Ross, W6VPN, a friend of Jack's, suggested that the club apply for Jack's call sign under the FCC "In Memorial" rule. It was felt that this would be an excellent way to honor Jack for all he had done for the JPL Radio Society.

On October 3, 1969, the call sign W6VIO was issued to the JPL Radio Club (the trustee at that time was Jay Holladay W6EJJ), a fitting memorial to Jack Blindbury, former President of the club, and significant contributor to its early success.

W6VIO On The Web

By Gerry Walsh, KB6OOC

Do words like TELNET, UNIX, or FTP cause you to cringe when you think about navigating around the Internet? Then recent developments in software tools over the past few years may take that fear away for good!

New multimedia tools, such as Mosaic or Netscape, allow you to graphically browse the World Wide Web on the Internet with no more effort than pointing your mouse at some text or graphics and clicking the button. The amount of information at your fingertips is absolutely amazing! Many U.S. Government departments are on the "Web" including the FCC. Ask your JPL section networking guru to setup one of these browsers for you if you don't already have one installed.

At the April club meeting, Greg LaBorde and I spoke mostly about packet radio and its capabilities. Towards the end of the meeting we managed to squeeze in a few minutes about the Web and how we have put the JPL Amateur Radio Club on it. If you missed the meeting or didn't know about the club having a "home page" then try this URL with your browser:

<http://kilroy.jpl.nasa.gov/jplarc/jplarc.html>

Continued on page 5

Setting this up has been a side project of mine since last Summer. There is a lot of neat and useful information available through this page. Some of the highlights include:

- Images of past club QSL cards
- A clickable listing of club members with email
- Past issues of "W6VIO Calling" starting with February 1995.
- A few committees and their functions.
- Easy access to the Packet/Internet gateway.
- Several links to other amateur radio sites on the Web.

I am always looking for feedback! Please send me some your suggestions, corrections, flames, etc. There is a feedback form on-line (see the bottom of the home page). Finally, have fun Surfin' the Web!

Volunteers Needed

We need someone to build a few audio and signal control cables. All of the components for the new mesa repeater system to replace our current 224.08 and 147.15 repeaters are ready to put in service, including our new Link Communications RLC-3 multi-port deluxe repeater controller. The only thing missing is the interconnecting cabling. These cables are 4 feet. long and generally have a Bendix connector on one end and a DB9 connector and/or spade terminals on the other end. If you can help contact Bob Dengler at 4-9620 or e-mail to no6b@no6b.jpl.nasa.gov.

Classified Section

For Sale

Battery Packs for HT's, camcorders, cordless and cellular phones, etc. at unusually low prices. Larsen mobile antennas also at discount. Call Walt Diem at (818) 248-7525.

Wanted

Twenties radio vacuum tubes and radios; Los Angeles radio manufacturing catalogs or historical publications about Los Angeles radio manufacturing in the 1920's and 1930's. Call Floyd Paul, W6THU, 818-242-8961.

Your want ad or article for inclusion in a future issue of W6VIO Calling. Submit either to Bill Wood, DSCC-33; or via Internet (bill.wood@ccmail.jpl.nasa.gov); or ccMail direct (Wood, Bill).

Roster Changes

Welcome to following new club members:

Jerry Couchman, KE6KZR
 Richard West, KC7HKF
 Carol Bruegge, KE6SRN
 Thomas Bruegge, KE6SRO

Treasurer's Report

By Jim Marr, AA6QI

For Period Ending April 30, 1995

General Club Account

Beginning of Month Balance:	\$1,492.83
Income:	
Dues	\$35.00
JPL ERC approved our '95 Grant Request for \$956.23 on 3/21/95, since all items are for partial funding, we must spend before receiving!	
Total Income:	\$35.00
Expenses:	
Postage for mailing April 1995 "W6VIO Calling" to off-lab members	\$20.48
"W6VIO Calling" publication costs for April 1995	\$63.51
Crystals for move of WB6IEA/R from 224.72 MHz to 224.70 MHz	\$77.30
Total Expenses:	\$161.29
End of Month Balance:	\$1,366.54

Autopatch Account

Beginning of Month Balance:	\$319.89
Income:	
New Autopatch Members (two at \$16.00 each)	\$32.00
Total Income:	\$32.00
Expenses:	
March '95 Autopatch Phone Bill	\$16.21
Total Expenses:	\$16.21
End of Month Balance:	\$335.68

Emergency Communications Account

Beginning of Month Balance:	\$2,000.00
Income:	\$0.00
Total Income:	\$0.00
Expenses: (Purchase Requisitions in Process for these items)	
Four Motorola Micor Squelch Chips	\$54.00
One PD220-2 144MHz Celwave Superstation Master Antenna for TMO repeater	\$569.25
One Radio Port Expansion Card for RLC-3 Repeater Controller	\$250.00
Total Expenses:	\$873.25
End of Month Balance:	\$1,126.75

Editor's Note:

This month's W6VIO Calling is the first issue to be printed on JPL Duplicating Services' high speed Xerox Docutech printing system. The issue was composed using Microsoft Word for Windows 6.0c, printed to a file with the Windows 3.11 Apple LaserWriter II NTX driver, then transferred by ccMail to Mark Banuelos of JPL ERC, who arranged for it's printing. The Docutech printer's 600 DPI resolution should provide a sharper, clearer, copy.

ARRL News

Provided by Jan Tarsala, WB6VRN

SAREX Frequency Changes

ARRL Space Bulletin 005

Space Shuttle flight STS-71, to be launched in June, is the first to feature a docking between the Shuttle and the Russian Mir space station. Special Shuttle Amateur Radio EXperiment (SAREX) voice frequencies will be used.

The special frequencies are: Downlink: 145.84 MHz worldwide; and Uplinks: 144.45 and 144.47 MHz worldwide.

SAREX and Mir Amateur Radio stations normally share the same downlink frequency, which would cause interference on the STS-71 mission. Because of this and lessons learned from using particular frequencies during previous SAREX missions, the SAREX Working Group has made these changes for STS-71. The new frequencies were chosen after much deliberation to minimize interference between SAREX, Mir, and terrestrial stations.

Most SAREX operations are split frequency, with a downlink (astronauts transmitting to Earth stations) and an uplink (Earth stations transmitting to astronauts). Listen to the downlink and transmit only when the shuttle is in range and astronauts are on the air.

Mir operations are simplex and remain on 145.55 MHz.

Before transmitting, listen to the SAREX uplink to avoid interfering with others, and listen for the astronauts' instructions about frequencies they're using. They won't favor a specific uplink, and your ability to work them will be "the luck of the draw."

If these special SAREX frequencies prove acceptable, they will be used for future docking missions. If you have comments, send them to AMSAT's Frank Bauer, KA3HDO, at his Callbook address, or to the ARRL Educational Activities Department.

Please note that there is a strong chance that STS-70 will fly before STS-71; if so, STS-70 will use the regular SAREX frequencies.

US Coast Guard Quits CW

By Al Brogdon, K3KMO, ARRL Letter, Vol. 14, Nr 7

After 94 years of Morse operation, the US Coast Guard has signed off. The occasion was marked in fine style at the USCG Communication Area Master Station Atlantic (CAMSLANT), NMN, in Chesapeake, Virginia, on March 31, 1995.

A striped tent was set up on the lawn at NMN for the ceremony that began promptly at 6:00 PM EST. The audience was small, but made up of people who had used Morse code for many years; officers and NCO's with four and five rows of ribbons on their dress blues, USCG retirees with many years of pounding brass, an old-timer wearing a cap embroidered with "USS Idaho, 1934-1938" and a windbreaker with "Pearl

Harbor Survivor" on the back, and civilians who love the rhythmic sounds of Morse's magical dots and dashes.

When one of the speakers asked how many hams were in the audience, about a quarter of the attendees raised their hands.

CPT Craig M. Nicholson, chief of the Information Systems Division, Atlantic Area, was the first of four keynote speakers. Craig, first licensed as K7VEW (the call sign he still holds) in high school in 1962, spoke of the ceremony being a "bittersweet moment" for him. On one of his first cruises, as an ensign, one of the two ship's operators was unable to sail because of a family emergency. "No sweat," Craig thought, "I can help the other operator."

Nicholson soon learned of the grueling routine of shipboard operators' 12-hour watches, and was as quickly greeted on the air with the Z-signal ZBM 2, which means "put a competent operator on the circuit."

LCDR Robert F. Salmon, Chief of the USCG Communications System 2000 Staff, was next to speak. Salmon began his Coast Guard career as an enlisted radioman, and is now the USCG's "Ancient Communicator," the most experienced radioman in the Coast Guard. LCDR Salmon made many interesting remarks about his USCG experiences through the years, including the story of the time he was in communication with a merchant vessel whose radio operator had barricaded himself in the shack while an honest-to-God mutiny raged outside his door!

Then Dr. Joseph Gardner, Senior Applications Specialist, EOSAT (and K7CI on the ham bands) spoke. Joe is a former USCG radio operator, and you may know his call sign from his twice being the Best Fist on Straight Key Night, and from PJ7/K7CI.

Joe took the audience on a tour of the history of maritime Morse operation, telling how the sinking of the Titanic started the Coast Guard down the path of radio communication, and how USCG radio work was spurred on by the Coast Guard's mission of pursuing the rum-runners of the prohibition era.

The final keynote speaker was the commanding officer of CAMSLANT, CDR Freddy L. Montoya. CDR Montoya spoke of Morse code being "a special language shared by a special community," and noted that after Morse first being used by the Coast Guard in 1901, it has finally run its course.

Then, precisely at 7:00 PM EST, CDR Montoya called for Senior Chief Petty Mike Dyer and gave him the order to begin the broadcast message that was NMN's and the Coast Guard's final formal broadcast. Senior Chief Dyer saluted his commanding officer and then relayed the order to TC3 Sergio Morales, KP4FFW, who transmitted the message using an electronic keyer at a speed of about 35 wpm.

Halfway through the message, the circuit breaker for the electrical service in the tent opened, casting darkness over the tent. Sergio's operating position was powered separately, and he continued sending without lapse as he shifted his gaze from the hard copy of the message on the desk before him to the green glow of the CRT at his position, where the message

text was also displayed performance one would expect of an expert operator, to be sure.

After the message was finished, at 0013Z on April 1, 1995, Sergio sent a final SK in expanded form if it were EEET ET. CDR Montoya then ordered Master Chief Dyer to retire the code keys from the three operating positions in the tent. Wren moved from position to position as each operator placed his key in the small wooden box, which he then carried away.

And so the end of an era came to pass. It was an emotional moment, particularly for the present and former Coast Guard operators in the audience, and for those listening on the air to the transmission of the final message. But it was also a time to extend to the Coast Guard, its communicators and NMN with the traditional Navy signal indicating a job well done: Bravo Zulu.

(In addition to QST Managing Editor Brogdon, Gardner, and Nicholson, other amateurs known to have been present at the ceremony included Society of Wireless Pioneers President and QCWA Vice President Jack Kelleher, W4ZC; and Alan Dorrhoffer, K2EEK, editor of CQ magazine).

Upcoming VEC Examinations

The following test session information is provided by the ARRL/VEC for the upcoming five week period. For further information, please call the test session contact person at the telephone number listed. If necessary, you may contact the ARRL/VEC at 203-666-1541 x282 for additional information. Electronic mail may be forwarded to the ARRL/VEC via USENET at "bjahnke@arrl.org" or via MCI Mail to MCI ID: 653-2312 or 215-5052.

Although the test session information presented here does not indicate whether walk-ins are accepted or not, most test sessions do allow walk-ins. We encourage you, however, to always call the contact person at the telephone number provided so that the VE Team is aware that you be attending the test session.

05/06/95, A, Los Angeles, 213-758-6343, Ali Hassan
 05/09/95, A, Glendale, 818-249-5240, Joseph Sabutis
 05/10/95, A, El Segundo, 310-336-0274, Richard D Pruitt
 05/11/95, A, El Segundo, 310-336-0274, Richard D Pruitt
 05/12/95, A, Irvine, 714-824-8477, Jack C Lockhart WD6AEI
 05/13/95, A, Corona, 909-737-9769, Clerina Lamarche
 05/13/95, A, Fontana, 909-823-6818, Louis Johnson, K6UMX
 05/13/95, A, Fontana, 909-822-4138, E William Gruber
 05/13/95, A, Hawthorne, 213-778-4625, Don Cain
 05/18/95, A, Fountain Valley, 714-778-1542, Thomas Harris
 05/18/95, A, Pasadena, 818-449-3790, Brad Hori
 05/20/95, G, Signal Hill, 310-420-9480, Don Boyce NN6Q
 05/21/95, A, Thousand Oaks, 805-375-1385, Marco Treganza,
 05/25/95, A, Colton, 909-825-7136, Harold Heydenfeldt
 05/27/95, A, Culver City, 310-459-0337, Scott V Swanson
 05/27/95, A, Pomona, 909-620-2089, Frank Westphal
 06/05/95, A, Lancaster, 805-948-1865, Adrienne J Sherwood

FCC Issued Call Sign Update

The following is a list of the FCC's most recently issued call signs as of April 1.

District	Group A	Group B	Group C	Group D
	Extra	Advanced	Tech/Gen	Novice
0	AA0WZ	KG0VF	++	KB0RVU
1	AA1MX	KE1AZ	N1USY	KB1BOI
2	AA2WW	KG2CB	++	KB2UCB
3	AA3LD	KE3SJ	N3UXM	KB3BHC
4	AE4GC	KS4TL	++	KE4YMF
5	AC5BV	KK5NB	++	KC5NRI
6	AC6LV	KO6TA	++	KE6SNC
7	AB7JE	KJ7MD	++	KC7JYT
8	AA8TA	KG8QJ	++	KB8YQE
9	AA9OG	KG9BH	++	KB9JVL
N. Mariana	KH0Q	AH0AV	KH0DW	WH0ABC
Guam	WH2M	AH2CZ	KH2NM	++
Midway	++	AH4AA	KH4AG	WH4AAH
Hawaii	++	AH6OB	++	WH6CUD
Am. Samoa	AH8N	AH8AH	KH8CG	WH8ABB
Alaska	++	AL7PZ	++	WL7CLX
Virgin	WP2R	KP2CD	NP2IA	WP2AHV
Puerto Rico	++	KP4ZC	++	WP4MXF

++ All call signs in this group have been issued in this area

New 220 Band Available

ARRL Bulletin 44

On April 26, 1995, amateurs gained secondary status access to 219 to 220 MHz. Amateur operation is limited to forwarding stations in point-to-point fixed digital message forwarding systems – including intercity packet backbone networks – only.

All amateur stations are required to notify ARRL (in its FCC-designated role as contact point) at least 30 days before operating in this band, and amateur stations within 80 km of an Automated Maritime Telecommunications Systems coast station must obtain written permission from the AMTS licensee before operating.

Amateur stations between 80 km and 640 km of an AMTS coast station must notify the AMTS licensee.

A Form 219A kit, available from ARRL Headquarters, includes a cover letter of explanation, a Form 219A for the required notification to ARRL (one is required for each transmitter planned), and a copy of the 219 to 220 MHz band plan.

May 1993 QST (page 9) and May 1995 QST (pages 9 and 93) have more information.

Special Notice:

Even if you don't normally go to the regular monthly JPL ARC meetings, you might want to make the meeting in 238-543 on May 10. You will have a chance to win a \$100 HRO gift certificate just for showing up! And you might be able to help the club win in it's Field Day category. So come on by and bring your lunch. It will be a good program.

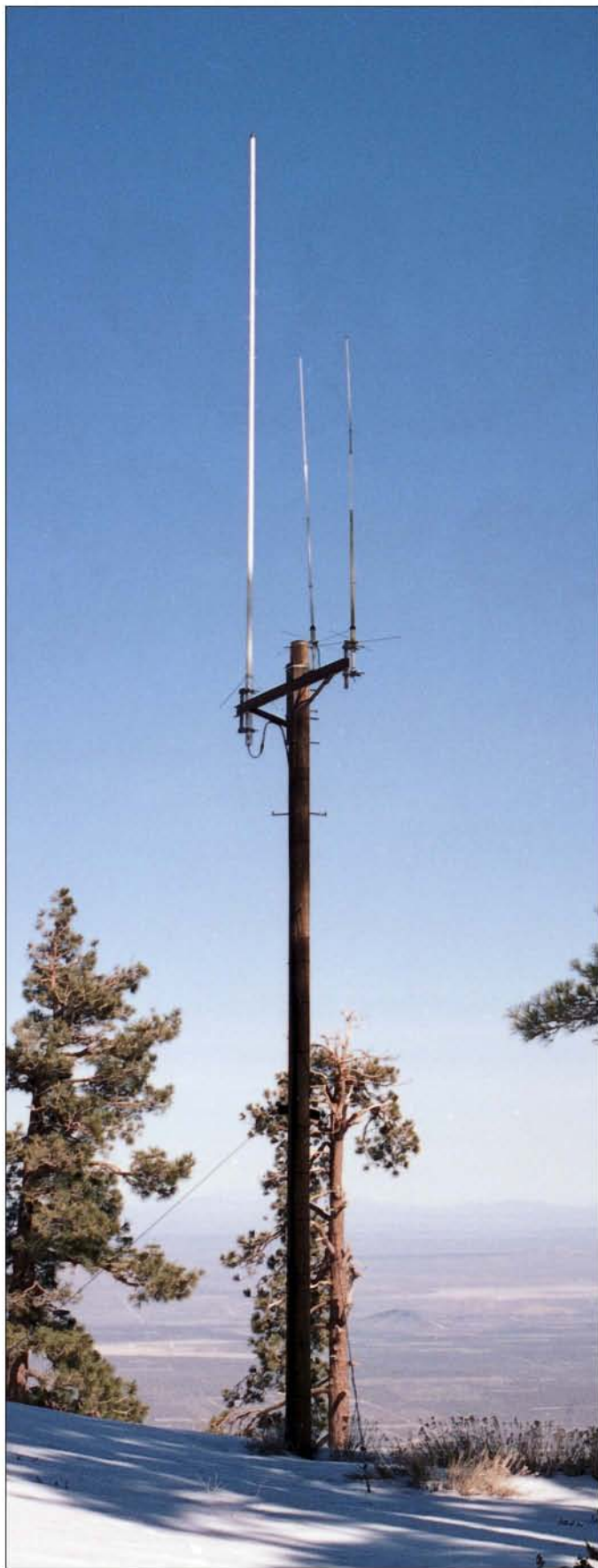


Table Mountain 220 MHz and 2-meter Antennas

TMO Repeater System

By Bill Wood, WB6FXJ

JPL's Goldstone Amateur Radio Club first installed repeaters at the Table Mountain Facility in 1977 and has supported their operation ever since. The JPL astronomy facility is located just northwest of Wrightwood, on the northern edge of the San Gabriel Mountains at 7500 feet in elevation.

Here is a rundown on the three TMO repeaters: All are rack mounted in the telephone equipment closet of the administration building at Table Mountain. The repeater antennas are located on short utility poles on the northeast side of the building with an excellent view of the upper desert.

All the repeaters cover the upper desert from Frazier Park in the west, up through Fresno and Visalia in the central valley, across through Ridgecrest to Furnace Creek in Death Valley, on to Pahrump, Nevada, south to Mountain Pass and Ludlow, then further south to Yucca Valley. On the south side of the San Bernardino mountains the coverage runs from Banning in the east down through Hemet and back up to San Bernardino and up the Cajon pass. On the south side of the San Gabriel mountains the main coverage is inside a triangle from Azusa to Newport Beach, across to Manhattan Beach and back to Azusa.

The old 2-meter repeater, first installed in 1977, was replaced with a new more sensitive and powerful unit in August of 1994. It has a duplexer output power of 25 watts and a receiver sensitivity of 0.15 microvolts. It is equipped with a 131.8 Hz CTCSS (PL) decoder on the input that is required for maximum receiver sensitivity. For people not using the 131.8 Hz PL tone the squelch is set very tight to reduce interference from weak co-channel users. The repeater also uses a 131.8 Hz PL tone on the output to allow you to use "tone" squelch on your radio to keep out other repeaters on the same frequency. Currently there are five other repeaters coordinated on 145.28 in Southern California. These are located in Covina, Garden Grove, Santa Monica, Vista and Camarillo, listed in order of overlapping coverage with Table Mountain.

The 223.96 repeater was first installed in 1977. It uses an input CTCSS (PL) tone of 156.7 Hz, and can be connected to the JPL ARC W6VIO repeater in La Canada via a special link repeater installed at the City of Industry Sheriff's station. The repeater has a duplexer power output of 45 watts and a receiver sensitivity of 0.15 microvolts. Table Mountain 220 is co-channelled with Mission Viejo in Orange County, Coronado in San Diego County, and Broadcast Peak in Santa Barbara County.

The original 447.325 MHz repeater was replaced in November of 1994 with a modified General Electric MASTR II radio and a very low-noise Angle-Linear GASFet preamplifier. These changes have significantly improved the performance. It has a duplexer power output of 25 watts and a receiver sensitivity of 0.12 microvolts. It is much more hand-held friendly and can be accessed from nearly everywhere that the 2-meter repeater can be used. A CTCSS (PL) tone of 94.8 Hz

must be used. The output has a 94.8 PL as well to allow the use of tone squelch. Table Mountain 440 is co-channelled with Palm Springs, Fontana, Covina, West Los Angeles and Sulphur Mountain in Ventura County. If you are a 2-meter user with a dual-band radio, you might try the 447.325 repeater. It may offer a better alternative to the busy 2-meter machine.

To improve the operation of the Table Mountain repeaters, there have been a number of recent changes. In August of 1994 a number of repairs were required to fix damage caused by a nearby lightning strike. The original Super Stationmaster 2-meter antenna had to be replaced with a temporary Hustler G6-144. Later, in September of 1994, a new Palomar Telecom controller was added to allow a number of new functions to cross-link and control the three repeaters. Most recently a power amplifier was added to the 220 MHz repeater to improve circuit margins with the link repeater located in the City of Industry. On December 11, a 2-meter transmitter isolator was installed to reduce an intermod product that produces a low-level 144.685 Mhz signal when all three repeaters are transmitting. During the same visit a low-noise preamplifier was added to the 220 repeater to improve its sensitivity to 0.15 μ v. In May or June of this year we ex-

pect to replace the temporary Hustler G6-144 2-meter antenna with a new Celwave Super Stationmaster unit to bring performance back to peak efficiency.

JPL ARC Repeaters

Pasadena:

W6VIO	147.150 MHz	(+)	PL 131.8 Open
W6VIO	224.080 MHz	(-)	PL 156.7 Shuttle Audio
WB6IEA	224.720	(-)	Closed Autopatch
W6VIO-1	145.090 MHz		Packet Node/BBS
W6VIO-1	223.540 MHz		Packet Node/BBS

Table Mountain:

WB6TZS	145.280 MHz	(-)	PL 131.8 Open
WB6TZS	223.96 MHz	(-)	PL 156.7 Open
WB6TZS	447.325 MHz	(-)	PL 94.8 Open



JPL Table Mountain Facility Administration Building, West Side

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