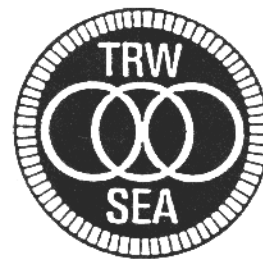




CROSSTALK



A Publication of the TRW Amateur Radio Club

MARCH 1995 CALENDAR

Every Monday: DCS Net on 145.32 Repeater at 7:30 PM

Every Wednesday: Emergency Communications Team Net on 145.32 Repeater at Noon

Every Thursday: Club Net on 145.32 Repeater at 7 PM, Club news, etc.

Every Friday: Club Breakfast in Bldg S cafeteria, 7-8 AM

Mar 4-5: ARRL International DX Contest, Phone

Mar 7: Executive Board Meeting, E2/1200, 5:15 PM - Note New Start Time

Mar 14: Emergency Communications Team Meeting, R3/1413, Noon

Mar 14: Club Meeting, 5:30 PM at Petrelli's

Mar 17: Technical Chairman's Meeting, Bldg S Shack, Noon

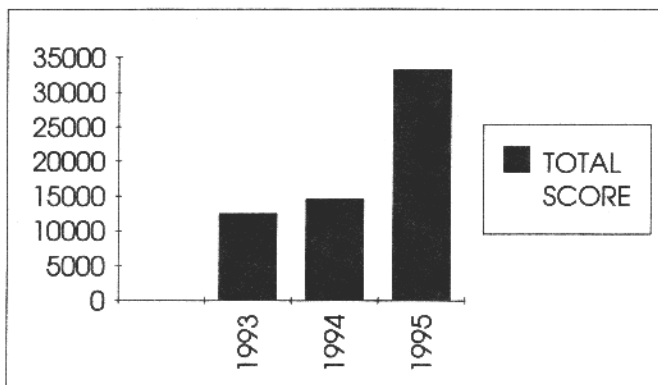
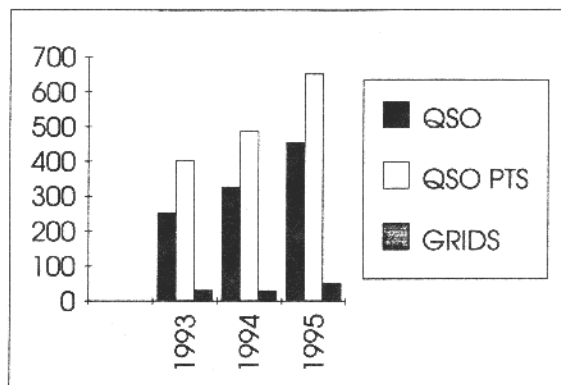
Mar 25: Swap Meet, Parking lot, NW corner of Aviation & Marine, 7-11:30 AM, T-HUNT at Noon

EDITORS NOTES: The deadline for *CROSSTALK* submissions is the executive board meeting on the first Tuesday of each month. If you have something and will be later than that please call and I will try to accommodate you.

TRW ARC Constitution Update: Frank Cartier has updated the club constitution. The changes will be reviewed at the March 7 executive board meeting and the March 14 club meeting. The membership present at the club meeting will get to vote on the changes. Any regular members (TRW employees) who want to review the revisions prior to the meeting please contact Frank for a copy.

TRW AMATEUR RADIO CLUB

JANUARY VHF CONTEST RESULTS



	1993	1994	1995
QSO	252	327	454
QSO PTS	403	487	652
GRIDS	31	30	51
SCORE	12,493	14,610	33,252

ARRL 48TH JANUARY 1995 VHF SWEEPSTAKES

CALLSIGN: W6TRW

MODE: SSB/FM/CW

CLASS: MM

BAND	QSO	QSO PTS	GRIDS
50	90	90	9
144	196	196	21
222	60	120	6
432	93	186	12
903	0	0	0
1296	15	60	3
=====			
TOTALS	454	652	51 => 33,252

OPERATORS

NAME

KB6TVJ	MICHAEL ZINGERY
KD6IGI	RAY ENRIQUEZ
KD6PRO	DAVE BLOODGOOD
KD6DYK	WENDY CRAWFORD
KD6WYQ	BOB BRIGGS
KE6CVV	CHRISTOPHER NILSEN
KE6JFT	STEVE QUINTUS
KE6MJR	CLIFF KERR
KE6MJU	MICHAEL LEE
KK6ZQ	PETER NILSEN
KN6OW	BRIAN DeARO
KO6MZ	JOHN SHEPHERD
N6ZAY	BLANE MILLIRON
WA6JOK	ED KORAN
WA6MPF	DAVID LEE

MY FIRST HF ANTENNAS:

Some Lessons Learned and Some Advice

by Bill Shanney, KJ6GR

I started in ham radio while a freshman in high school back in New Jersey. My parents were very supportive but I had the same space constraints as now since our home was on a 50' x 100' lot. The only antenna I could put up was a simple dipole. The span from the back of our lot to the front of the house was 70 feet, perfect for 40 meters. I convinced my father to buy a 25' length of pipe for the rear support and nailed a short section of 2x4 to the house to secure the front. I fed the dipole with 50 ohm coax and made many fine contacts on this band which continues to be one of my favorites.

That summer my friends WA2PAE, WA2SRK and I upgraded to General class and the lure of other bands and perhaps some of that DX we heard about fueled my desire for a multi-band antenna. I bought a used vertical, it was 20' tall and had a big loading coil at the base that was tuned using a wire with an alligator clip on one end to short the turns and get the proper resonance. I found a 6' piece of iron pipe and sunk it about 4' into the ground and secured the vertical to it. It was only 3' from the house, which completely blocked one side, and I knew nothing about needing ground radials. Needless to say it was less than a good performer and I started to look at other alternatives.

I bought a copy of the *ARRL Handbook* and read the chapter on antennas. I became interested in multi-band operation of dipoles fed with open wire or balanced feeders. Some folks call them tuned feeders since they require a matching network to provide the required 50 ohms to the transmitter output. I constructed a *Transmatch*, I prefer this name to the commonly used *Antenna Tuner* because the function is to match the load at the end of the transmission line connected to the transmitter, not to tune the antenna. We were fortunate to have WW II surplus components available for projects like this. My friends and I often spent Saturday mornings in New York City visiting the then famous stores on "Radio Row". I bought most of my parts there at surplus prices and was very liberal about substitutions to save a few cents here and there; its a wonder anything worked or survived the application of RF for that matter.

I was about to purchase ceramic spacers to construct the open wire feeders when I read an article in *QST* that described a home brew spacer made from short pieces of wooden dowel that were drilled to space the wires and boiled in paraffin for weatherproofing. This was more interesting and more important it was cheap. I only needed 30 feet of feed line and was on the air with my new Zepp in a few days. The term Zepp was used to describe a multitude of wire antennas, both center and end fed, it originated from the end fed wires that were trailed behind Zeppelins in the early 1900s.

I managed to tune that antenna on all bands 80 through 10 meters. I have no idea what the SWR was because I didn't have a SWR meter, I simply put a field strength meter outside the window and tuned for maximum. It's a good thing that the tube rigs we used back then were very forgiving and could be tuned for a wide range of loads. I got many years of enjoyment from that simple antenna running about 35 watts output.

The motivation for this article was partly the fact that I still have a similar antenna in my yard and after the bad rains we had in January badly detuned the traps on my multi-band dipoles the center fed Zepp still worked fine. The second reason was I realized it is the first thing that comes to mind when a new ham asks for advice on a first HF antenna. There are thousands of hams who rely on this simple antenna for all their HF needs.

At this low point in the solar cycle the 40 and 80 meter bands are the best for evening operation. They also have novice CW segments to help build up your code speed and upgrade. How long does this antenna need to be? At least $1/8$ wavelength at the lowest operating frequency is recommended for good efficiency (that's 65 feet for 80 meter operation). 450 ohm ladder line is available at the ham radio stores for a very low price. Just cut the feed line as long as necessary to reach your shack. You will need a tuner with a built in balun, there are many good ones available today or you can get one used at the swap meet. The cost of a tuner is less than a commercially built multi-band antenna. The auto-tuner in many transceivers today will not tune this antenna. You may get lucky on one band but the built in tuner will not handle the wide range of impedance's presented by this antenna type. If you have trouble tuning up on a band add a few feet of ladder line to your feeder to change the impedance.

The easiest way to get your dipole in the air is in an Inverted-Vee configuration. Purchase a 30' push up mast at Radio Shack or other electronics store to support the center and keep the ends of the antenna up as high as practical, at least high enough to prevent people from touching them, and don't let the apex angle get less than 90° (120° is better). Remember to properly guy the mast and keep it and your antenna wires away from power lines. Run the feed line straight down as far as possible and twist it slowly as you run it to the shack to reduce pickup of the antenna radiation, one turn every 3-6' is sufficient. Keep the feeder at least 6" from the mast or other metal objects.

Some of you may wonder about vertical antennas. There are many fine verticals available today but they all share two undesirable traits, they are expensive and more susceptible to local noise which is vertically polarized. Verticals do work better than low dipoles for long distance work but they are poor for short distance contacts. If you can afford one make it your second antenna purchase. The Cushcraft R7, GAP and Butternut verticals are good performers but the latter two require radials.

What does KJ6GR use for antennas? **DIPOLES!** I have two Cushcraft rotary dipoles, one for the WARC bands and one for 40/20/15/10 meters. I also have a 100' center fed inverted-vee I use for 80 and 160 meter local contacts and a Butternut vertical for DX on these challenging bands. Why do I use dipoles? Most of the time they work better for my casual operating style. When you are first starting out on HF, keep it simple.

For Sale: Ten Tec Argonaut II HF QRP transceiver, general coverage receiver, 5 watts output, \$900/obo. Call Bill Shanney, 310-542-9899 evenings after 6PM

For Sale: Yaesu G400RC antenna rotor, never used, in box; \$225/125. Astron RS-12M power supply, like new; \$125/75. Call Craig Talbot, 310-812-7522 (work), 714-897-8370 (home).

Surfing on Netscape

This past month I installed the Internet Browser program Netscape on my PC at work. Netscape is very much like Mosaic. I found some great location for Ham Radio. Here is my brief list.

<ftp://archive.afit.mil/pub/space/>

This FTP sight is the place to get kepler data for orbit tracking programs that use the NASA two line format. It is updated many times a week. You can FTP many different files. One file contains all the current satellites or there are files broken down into types of spacecraft. There is also a file on all the satellites you can see, like Hubbell Space Telescope.

<http://lorien.qualcomm.com:80/amsat/>

This http page is the Amsat home page. You can find the latest Amsat news and other Amateur Radio satellite news.

<http://mpg.phys.hawaii.edu/AmateurRadio.html>

This is another http page that is devoted just to Amateur Radio. From this one page you can browse to almost all the other known Amateur http browse pages on Internet.

If FTP and http are new terms to you come to the Technical Chairman meeting the third Friday of each month in the Building S shack.

email addr: Chris_Wachs@qmail4.nba.trw.com

Tech Chairman meeting off and running

I would like to thank Terry Thompson and Ray Enriquez for helping the past few months getting the shack back together. Terry and Ray are working on getting the 9600 baud packet station back on the air. Terry also is working to get the OSCAR station back on the air. If you are interested in OSCAR, 9600 baud packet, or TCPIP come to the Tech Chairman meeting the Third Friday of each Month in the S. Shack.

Redondo Beach School Future Academy

The Redondo Beach School district is putting together a future Academy for 9 - 12 graders. They began Facility modification at the begging of this year. The Academy will have 2 of 10 disciplines devoted to communication. One will be the monitoring of weather satellites and the other will be the monitoring of Amateur Radio Satellites with an OSCAR ground station. Classes are to begin Feb. 96. If you have any weather satellite receivers, 137 MHz or OSCAR equipment, contact Chris Wachs 310-813-1506 and I can tell you who to call to get more information or to help with the setup.

The Future Academy will also have full Internet access to teach the students about Internet and communications. Internet will be used as a resource for the students to perform self guided research papers for the topic they are studying. The students will spend 10 days at each station learning the material in a self guided pace with two students to each station. I can say that Amateur Radio has made it into the classroom.



The 1994 Amateur Radio Year in Review

January: ARRL seeks lifetime amateur licenses

- The ARRL petitions the FCC to make Amateur Radio operator licenses valid for a lifetime. The proposal would apply *only* to operator licenses; station licenses would still, by law, be limited to 10-year terms.

- In response to an FCC proposal in late December 1993, an ARRL ad-hoc committee is named to develop a recommendation on a "vanity" call sign program for the board to consider.

- The ARRL files comments in opposition to an FCC proposal to grant immediate on-the-air privileges to amateur examinees before a license is issued by the Commission, saying that electronic filing would be a better way to address the problem of excessive delays.

- The New Jersey Department of Environmental Protection and Energy (DEPE) proposes to register and assess fees for sources of nonionizing radio frequency radiation. In mid-December 1994, amateurs are exempted.

- Amateurs are reminded that in 1994 license renewals begin again after a 5-year hiatus.

- Former Headquarters staffer Vern Chambers, W1JEQ, dies at age 78. He worked for the League for more than 25 years.

- The first ARRL *DXCC Yearbook* is mailed to about 7500 active DXCC participants.

- In Minnesota, a federal appeals court finds in favor of Sylvia Pentel, N0MRW, after a three-year battle for a tower in Mendota Heights. Pentel's lawyer is John B. (Jay) Bellows Jr, K0QBE, assisted by an ARRL *amicus curiae* brief filed by General Counsel Chris Imlay, N3AKD.

- The League petitions the FCC for primary amateur allocations from 902 to 904 MHz and from 912 to 918 MHz, with certain geographic limitations, instead of their current secondary status.

February: Novices get more 222-MHz rights

- February 1 is the opening date for enhanced privileges for Novice class licensees on the 222 MHz band, as well as the day a weak-signal segment goes into effect at 222.0 to 222.15 MHz.

- Russian and American amateurs aboard the US space shuttle are able to operate thanks to a last-minute pact between their two countries, who finalize temporary third party and reciprocal operating agreements just after the shuttle lifts off. The ARRL and the FCC's Personal Radio Branch save the day.

- The ARRL tells the FCC that a proposal to adopt new standards for exposure to radio frequency radiation should be terminated, because it is premature and should have been

introduced as an FCC notice of inquiry, in any case.

- The ARRL asks for an extension of the comment deadline on an FCC proposal to establish a "vanity" call sign system, in PR Docket 93-305, saying that insufficient time was given for comments and that legislation pending in the Congress could affect the way by which the FCC could charge fees for call sign requests.

- The average cost of a hard cover technological book is \$48.83, according to *Publisher's Weekly*. The cost of the *ARRL Handbook* is \$25.

- Joe Hertzberg, N3EA, dies on February 14, 1994, at age 86. He was first licensed in 1926 and in 1956 was named RCA Man of the Year.

- The ARRL files reply comments on an FCC proposal (PR Docket 93-267) for "instant licensing" for amateurs, and says that virtually every individual and group who commented agreed that while licensing delays need to be reduced, the proposed idea was a bad one.

- A preliminary plan from the National Telecommunications and Information Administration (NTIA) for reallocating government frequencies to nongovernment uses—around 2300 and 2400 MHz, doesn't go far enough in responding to the will of Congress in protecting the needs of amateurs, the ARRL says.

- For the second month in a row, mailing of *QST* is delayed by the Winter of '94, when ice in Kentucky shuts down the R. R. Donnelley and Sons printing facility for two days, delaying March *QST*.

- Joe Lynch, N6CL, ARRL Oklahoma section manager, visits Cuba and lays the groundwork for joint US-Cuban amateur operations later in the year.

- The ARRL and the Field Operations Bureau (FOB) of the Federal Communications Commission sign a new agreement on the use of amateur volunteers, a revised and expanded version of one entered into in 1984.

- The robot packet station counter aboard SAREX flight STS-60 clicks over more than 4000 connects with amateurs.

- The FCC announces that some of its information is now available on the Internet, including the FCC Daily Digest, news releases, some public notices, and the text of speeches by Commission officials.

March: Telephone survey raises many questions

- The Radio Amateur Satellite Corporation (AMSAT) celebrates its 25th anniversary on March 3.

- The FCC releases the results of a telephone interference survey, concluding that since some telephones are "bulletproof," all of them could be. But it's not that simple, since the bulletproof models lack some of the features consumers want.

- Two men rescued from a sinking boat in the Gulf of Mexico credit Amateur Radio for saving their lives.

- The FCC extends the comment deadline in its "vanity" call sign proposal to April 21, 1994, at the League's request.

- The FCC also extends the reply comment deadline in its proposal to adopt new standards for exposure to RF radiation; the League continues to advocate dropping of the proposal entirely.

- Citing "news hungry hams," the Radio Society of Great Britain adds a telephone hotline to augment its on-the-air Amateur Radio news bulletins. The RSGB also has a weekly on-the-air service.

- The League warns amateurs that a commercial company is sending notices in the mail to hams whose Amateur Radio licenses are about to expire, offering to renew the hams' licenses for a fee (\$5). Meanwhile, at the direction of the Board of Directors, the ARRL undertakes the same project for its members—*for free*.

- Fred Doob, AA8FQ, raises more than \$2000 for the Childrens Cancer Research Fund while running the Los Angeles Marathon on March 6. Fred, 47, made more than 400 contacts on 144 and 440 MHz during the run.

- The Dayton HamVention announces its 1994 honorees and, for the fourth time in the past five years, an ARRL dignitary is the Dayton HamVention Ham of the Year. It's Perry Williams, W1UED, who will retire at the end of April as ARRL Washington Area Coordinator, after 40 years of League service. Receiving the Technical Achievement Award is Dick Newell, AK1A, of Bolton, Massachusetts. The DARA Special Achievement Award goes to Russ Kroeker, N7HGE, of Kent, Washington.

- The FCC releases its Notice of Proposed Rule Making for new license fee assessments, including Item 59, amateur "vanity" call signs (if a plan is ever approved).

April: ARRL prepares vanity call sign position

- The ARRL Executive Committee approves the recommendations of its ad hoc committee on the FCC's "vanity" call sign proposal (PR Docket 93-305), based on input from hundreds of League members.

- Space shuttle SAREX flight STS-59 is launched April 9, with seasoned ham-astronauts Jay Apt, N5QWL, and Linda Godwin, N5RAX, on board. They begin operating the orbiting ham station just a few hours after launch.

- The Amateur Radio Service Joint Resolution, H.J. Res. 199, reaches the point that a majority (226) of the US House of Representatives are cosponsors, on April 11.

- Katashi Nose, KH6IJ, dies on April 7, in Honolulu, at age 79.

- The ARRL Executive Committee instructs ARRL's general counsel to file a petition with the FCC to elevate amateurs' status on portions of the 2300-MHz band.

- The FCC orders 59 amateur licensees to be re-examined on exam elements passed at examination sessions coordinated by the ARRL-VEC in southern California between late 1992 and mid-1993, for cheating.

- Washington State gets Senate Bill 5697, limiting the ability of municipalities to enact antenna and tower regulations, by pointing out the federal preemptions of the FCC's PRB-1.

- In Alabama, more than 70 amateurs in 10 counties help with communication following several tornadoes. In Georgia, hams in 12 counties are active during the storms.

- The FCC releases its Report and Order in PR Docket 93-85, regarding messages relayed by amateur high speed networks. New rules will begin June 1.

- The League petitions the FCC to increase the minimum number of members necessary for granting a club station license from two to four (RM-8462), in anticipation of reactivation of the club call sign program, dormant since 1979.

- The ARRL files comments on the FCC's "vanity" call sign proposal, emphasizing an orderly assignment system, a one-time application fee, and fairness.

- The proceeds from a life insurance policy on Lloyd Colvin, W6KG, more than \$150,000, will fund an endowment for international programs.

- The Russian space station *Mir* and the orbiting US space shuttle *Endeavour* "hook up," via the amateur 2-meter band and a ground link in Australia.

May: FCC denies proposals to reduce exam requirements

- The FCC denies three petitions from amateurs to change the licensing structure, one to lower Morse code requirements and two others to eliminate the 5 wpm CW examination for the Novice license.

- The FCC issues a Notice of Inquiry on reallocation of 50 MHz of spectrum from federal government use (in ET Docket 94-32), including 2390 to 2400 MHz and 2402 to 2417 MHz, both used by amateurs on a shared basis.

- John Lickun, N2MVZ, of Little Falls, New Jersey, pays a \$250 FCC fine for causing malicious interference to a Manhattan repeater.

- New Hampshire House Bill 1380 exempts Amateur Radio towers and antennas from real estate property taxes.

- Nine-year-old Casey Haley, AB5RG, achieves DXCC.

- On disbanding, the ARRL-affiliated Houston Amateur Radio Club gives the balance of its funds to the League and the ARRL Foundation: nearly \$15,000, earmarked for scholarships and legal defense.

- The ARRL replies to comments on the FCC's "vanity" call sign proposal, and opposes a proposal by Frederick O. Maia, W5YI, to establish a "Vanity Call Sign Administration" program in the private sector.

- The FCC denies two petitions for reconsideration to broaden the so-called "pizza rule" (in effect since September 1993), as well as one seeking changes in the amateur service rules to reduce the number of license classes.

- John DeVoldere, ON4UN, visits HQ, and autographs a few copies of his new, and very popular, book, *Antennas and Techniques for Low Band DXing*.

- The ARRL directors meet for a long range planning session—into the next century.

- Stu Meyer, W2GHK, dies May 21, at age 76.

- The FCC cancels a fine of \$2,000 against a Florida woman for unlicensed operation on 2 meters. The woman said she should have received a warning and that she could not afford to pay the fine, in any case.

- Geoff Watts, for years editor of the Radio Society of Great Britain's *DX News Sheet*, dies at age 75.

June: Automatic control proposed rules released

- The FCC issues its NPRM in PR Docket 94-59, proposing to allow automatic control of digital stations under certain conditions on the HF amateur bands.

- N6CL's efforts pay off when a unique joint Cuba-USA operation on Cuban soil takes place, including the ARRL June VHF QSO Party.

- The FCC's Private Radio Bureau clarifies rules on message content that went into effect on June 1, 1994. The new rules do *not* remove the restriction against automatic control of digital and RTTY transmitting below 50 MHz.

- Of more than 100 clubs who enter the 1993 annual newsletter competition of the Amateur Radio News Service (ARNS), three stand out: *The Atlanta Ham*, *The Readout*, (Stanislaus, California), and *The W3OK Corral*.

- The League files comments on an FCC NOI that proposes to take 35 MHz of spectrum at 2300 MHz. The League says the proposal goes against the will of Congress and that existing and future amateur uses of that spectrum must be protected.

- The members of the ARRL's volunteer Bio-Effects Committee resign in a disagreement with the Board of Directors. ARRL President George Wilson, W4OYI, calls their reasons for resignation "insubstantial" and pledges continued League activity on bio-effects.

- The FCC proposes to amend its rules to allow persons who have passed the examinations for a commercial radio operator license, but have not yet received the license, to temporarily and conditionally perform the functions of a commercial radio operator, citing processing times of as much as eight weeks. At the same time, amateur licensing applications are taking as much as 12 weeks.

- The FCC proposes to change its rules for equipment authorization procedures that apply to RF devices, including radio receivers and transmitters, computers, and video cassette recorders, to "remove certain inconsistencies."

- Beginning with FCC licenses issued June 8, amateurs are advised to carefully note the expiration date, as only new (first) licenses or specific renewals have a full 10-year term. Upgrades and so on are processed with the original expiration date intact. Also, "TECH PLUS" now appears on licenses.

- A Cuban refugee boat containing CO2PJ is rescued, thanks to his call for assistance on the amateur 40-meter band. Amateurs in Venezuela and Panama help out.

- Leaders of the Deutscher Amateur Radio Club (DARC), the Japan Amateur Radio League (JARL), and the ARRL, meet in Germany to discuss mutual concerns.

- The FCC issues a Notice of Apparent Liability for \$20,000 to Ace Communications of Fishers, Indiana, for marketing illegal scanner radios. Ace, the FCC says, advertised two different unauthorized scanners in magazines including *73 Amateur Radio Today*, *CQ*, and *Popular Electronics*.

- Quote of the Year (in *The ARRL Letter*): "Here's something different to try in the way of a *low key* operating event: the Hiram Percy Maxim 125th Anniversary Celebration September 2 to 11." Low key, *not*.

- Shiro Nomura, JA1CB, just-retired chief engineer and manager of research and development for Kenwood, visits HQ. Nomura's successor is Mickey Hatori, JA1MZX, who also visits.

- Former Senator Barry Goldwater, K7UGA, appears on the *Ham Radio & More* AM radio show on June 26, and is "sensational, as usual," according to the show's producer, Len Winkler, KB7LPW.

July: Joint Resolution gets a boost in the House

- Amateur operations are conducted from a number of NASA facilities from July 19 to 22, to commemorate the 25th anniversary of the 1969 *Apollo 11* moon landing.

- Key provisions of ARRL's House of Representatives Joint Resolution 199 are included in H.R. 4522, the FCC Authorization Act of 1994, a major step toward eventual passage.

- On July 11, N6CA and KH6HME set a new world distance record on 2304 MHz, after 13 years of trying to span the path.

- A study on electromagnetic fields finds that wieners are four times as likely to cause cancer as EMFs. It does not specify kosher or nonkosher.

- Tropical Storm Alberto causes serious flooding in the southeastern US, and hundreds of amateurs mobilize.

- The ARRL Board creates a new RF Safety Committee to continue where the Bio-Effects Committee left off.

- The widow of Guglielmo Marconi dies in Italy at age 94.

August: FCC paper backs amateurs' 2300-MHz position

- An FCC report strongly supports continued Amateur Radio presence in the 2300-MHz band, challenging preliminary recommendations by the National Telecommunications and Information Administration (NTIA) that large portions of the band be reallocated for other uses.

- Amateurs in the Washington, DC area announce an ambitious plan to sponsor a World Radiosport Team Championship in July 1995. It would be patterned after the WRTC held in Seattle in 1990 in conjunction with the 1990 Goodwill Games.

- The FCC announces upcoming reorganization of several of its bureaus and offices, under a new bureau to be called the Wireless Telecommunications Bureau. Co-deputy chief of the new bureau will be Ralph Haller, chief of the Private Radio Bureau.

- Amateurs help during widespread brush fires in tinder-dry Colorado, providing communication and reporting service to public safety agencies and the media.

- The 13th annual ARRL Digital Communications Conference, hosted by the TwinsLAN Amateur Radio Club, draws more than 140 amateurs.

- The ARRL DX Advisory Committee votes to recommend setting a minimum size for new DXCC countries; implicit in this recommendation is that operation from an island must take place from the surface of that island.

- The ARRL Foundation establishes The ARRL Program for the Disabled Fund, to raise funds for the development of educational and informational materials for disabled licensed or prospective hams.

September: HPM/125 a big hit

- The HPM 125th Anniversary Celebration is a major hit, an absence of sunspots notwithstanding.

- A survey of three major volunteer examiner coordinators by the Federal Communications Commission leads to a number of "recommendations" apparently aimed at shoring up the "wall" between organizations involved in both publishing study materials and in coordinating VEs (namely, the W5YI-VEC and the ARRL-VEC, which account for about 88% of all VEC activity).

- At the same time, the FCC calls 1993 the "most productive year yet" for the VEC system, the three reporting VECs coordinating more than 9,600 examination sessions.

- International Morse code requirements and the status of the 40-meter band are among topics discussed at a meeting of the Administrative Council of the International Amateur Radio Union.

- The ARRL comments on an FCC Notice of Inquiry in preparation for the next International Telecommunication Union World Radio Conference, scheduled for November 1995, and says realignment of the 7-MHz band should be held until 2001. The League also says that a future agenda item should be an "International Amateur Radio Permit."

- Of 51 amateurs who are given the choice, by the FCC, of

reappearing for examination or forfeiting the privileges they obtained through exams taken in California in 1992 and 1993, only three appear for re-test, and all three fail.

- Several ARRL officials attend a meeting of Region 3 of the International Amateur Radio Union held in Singapore, which also has 97 delegates and observers from 18 member-societies of Region 3, the best turnout ever for a Region 3 conference.

- The FCC denies a petition proposing exemptions from Morse code exams for people age 65 and older, saying that FCC rules already provide for Morse code exemptions for certain recognized disabilities.

- The ARRL-VEC and W5YI-VEC begin testing electronic filing software from the FCC.

- The 1994 Microwave Update Conference held in Estes Park, Colorado, September 22 to 24, sets a new record of 100 attendees.

October: Three VEs face stiff FCC sanctions

- The FCC orders three California amateurs to show cause why their station licenses should not be revoked, and orders their operator licenses suspended. All three are Amateur Extra volunteer examiners accused of fraud.

- The League's joint resolution supporting Amateur Radio passes both houses of Congress in the wee hours of the morning of October 7. The bill asks for "reasonable accommodation" in the operation of Amateur Radio in homes, automobiles and public places.

- More than 240 satellite-active amateurs gather October 7 to 9 for the 12th Annual Meeting and Space Symposium of the Radio Amateur Satellite Corporation (AMSAT-NA). The conference, held in Orlando, Florida, marks the 25th anniversary of AMSAT.

- Robert W. Jones, VE3CTM, is elected director of the Radiocommunication Bureau of the International Telecommunication Union (ITU). Jones, 50, replaces the retiring director, Richard C. Kirby, W0LCT, and attributes his professional interest in radio to his roots as a licensed radio amateur as a teenager in 1959.

- The ARRL Awards Committee rejects, 5-to-2, the recommendation of the ARRL DX Advisory committee to set a minimum geographical size for new DXCC countries. DXAC Chairman Bob Beatty, W4VQ, says the committee will submit a new recommendation, on appeal.

- Six HQ staff members join the 10-Year Club; 40% of HQ staff now have 10 years or more with the League.

- On October 24 the FCC releases a 7-page Order to implement electronic filing on December 20, 1994, and to make other what the Commission calls "nonsubstantive procedural changes."

- The FCC adopts a Notice of Proposed Rule Making in which it proposes to convert a block of spectrum from federal government to commercial use, including allocating 2390 to

2400, 2402 to 2417 (both shared by amateurs), and 4660 to 4685 MHz to the Fixed and Mobile Services.

- Bill Leonard, W2SKE, a former president of CBS News, dies at age 78.

November: ARRL presses for action on automatic control

- The ARRL files reply comments on FCC PR Docket 94-59, that proposes to allow automatic control of digital stations on the HF bands under certain specific conditions, urging the FCC to adopt the League's original proposal for specific subbands and other restrictions as a best compromise.

- November *QST* is an all-time record 272 pages.

- The FCC sets December 19, 1994, as the comment date for a Notice of Proposed Rule Making to convert a block of spectrum from federal government to commercial use, including parts of the 2400-MHz band shared by Amateur Radio on a secondary basis with the government.

- The ARRL's joint resolution supporting Amateur Radio is signed into law by President Bill Clinton on October 22—it's now Public Law 103-408.

- David Funderburk, K4TPJ, is elected to the US House of Representatives. Funderburk, a Republican, was picked for North Carolina's 2nd District. He's 50 and was first licensed at age 15. "I just want to be a good friend [to amateurs] and do what I can," Funderburk says.

- New distance records are set on both the 144-MHz and 5760-MHz amateur bands, the former by VE1KG and WB4MJE, the latter by WB5LUA and W9ZIH.

- Former amateur George S. Pataki is elected governor of New York. He was K2ZCZ from 1959 to 1970 and his brother Lou is K2PRB.

- The radioastronomy dish used by VE3ONT produces 299 Earth-Moon-Earth contacts on 2 meters during the ARRL EME contest.

December: FCC opens new Wireless Telecomm Bureau

- Regina Keeney is named chief of the FCC's new Wireless Telecommunications Bureau, which opened December 1. Both of her parents are licensed amateurs.

- At their invitation, ARRL Manager of Membership Services Chuck Hutchinson, K8CH, attends the national HF convention of the Unión de Radioaficionados Españoles (URE), in Spain.

- W1YG, in Lyme, Connecticut, wins a three-year battle when a federal court judge gives the go-ahead for his 78-foot tower. The judge cites PRB-1 in his decision.

- The ARRL comments on the FCC's NPRM on reallocation of 2400-MHz spectrum, arguing that the NTIA failed to follow the will of Congress in selecting these segments for new commercial use.



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