W6SBA SOUTH BAY AMATEUR RADIO CLUB

SPECIAL SERVICE CLUB

ARCOver

September 2021

A Community Service Organization Dedicated to Amateur Radio Since 1970

In this issue:

E-mail: W6SBA@arrl.net

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Website: http://www.w6sba.org

SBARC members,

Here we are into September. Hope you found your summer to be enjoyable. In July, Glenda and I did a short RV trip up to Lake Cachuma. How time flies by… Some thoughts on the club front; We are putting out feelers for interest in another club picnic gathering for October. I want to make the point that I now think we need to encourage more in person meetings. We are still waiting for access to return to the TMMC conference center. I feel we should consider a temporary alternate meeting location if someone has any suggestions. This also has impacted our VE sessions. We need the proper setting that would allow for testing. Let us know if you have an activity in mind that you would like to see the club participate in. Lastly, an important next step for the club this year is elections. Let us know if you can take a role on the council. Some new ideas and energies are most welcome.

Well, I have to say our balloon fliers are persistent. On September 5, 2021 we had another take off from the TMMC parking structure. Not sure what happened on this flight. Looks like it went dark about 10 miles west of the coast of El Segundo. Looks like the only recovery option for this balloon is for it to wash up on the beach. Would that be the long path, Tahiti, or the short path back to El Segundo? Looks like its future is now up to the water currents rather than the air currents. Maybe it's still up there. Similar things have happened with the balloons.

Alan Thompson - W6WN, is our meeting speaker for September 16, 2021. Alan is the Owner and Chief Field Engineer for El Dorado Networks (ElDoradoNetworks.com) in El Dorado County, responsible for installing and maintaining commercial satellite Internet and video systems in the Western US and Mexico. His presentation topic is about emergency communications planning and execution that failed during the Camp Fire and similar events, and suggests ways to help our communities stay safer in the event of similar disasters here. He has seen experience with identifying the vulnerabilities of commercial cell phone service sites and their restoration. Join us on September 16th, 2021 at 7:30PM. We are still on Zoom since our meeting room access is still on hold. Please let us know if you need a Zoom meeting link. (FYI: The Zoom links are the same for each month.)

Upcoming monthly club activities include, the SBARC virtual Zoom club meeting on September 16th at 7:30PM. And, we are now back in business with the TRW/NGC swap meet. Our first return date was August 28th. We thank Tom KI6RC for hauling out the gear after a 17th month hiatus. I think the swap meet will take a few months to restore its former popularity. Personally I think we are lucky to have it back. This could have been the perfect opportunity for the corporate leaders to permanently put it out of business. After the swap meet a few of us use to head over to Denny's. Maybe if there is interest we can again go to breakfast afterwards.
As always, it's your amateur radio club, lets us know what you would like to see happening with your club

73's…

Scott-N6LEM

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Past Pres: OPEN

CLUB MEETING

September 16th at 7:30 p.m.

on Zoom

"Phones, Fire and Failures" by Alan Thompson

Summary: This is an audio/video presentation about emergency communications planning and execution that failed during the Camp Fire and similar events, and suggests ways to help our communities stay safer in the event of similar disasters here. One thing is clear: We must find more resilient solutions to help ensure our communities get timely, life-saving information about fast-moving disasters, especially in light of our present -day over-reliance on cell phones and the Internet for everything - technologies which, in turn, depend on a trillion dollars of vulnerable infrastructure not to fail. The Presentation also offers suggestions on how we all can help to make our communities safer in the event of local disasters or emergencies. Outline:

· Time Line detailing events that unfolded on November 8, the first day of the 2018 Camp Fire

· Identifying catastrophic points of failure that impact emergency communications, alerts, and evacuations, placing peoples' lives at risk

· Our Team's role in restoring disabled cell phone communications

· Day-lighting cell-phone service vulnerabilities

· Steps we can all take right now to help support better emergency communications in our own, local communities.

I'm currently the Owner and Chief Field Engineer for El Dorado Networks (ElDoradoNetworks.com) in El Dorado County, responsible for installing and maintaining commercial satellite Internet and video systems in the Western US and Mexico (I learned basic Spanish living in Mexico 4 years). Recent projects include work for Facebook, Intelsat, Merrill Lynch and Bank of America. Most recently, my commercial satellite Internet experience was tapped as part of a four-person Disaster Recovery Team to help restore cell phone services in Butte County just after the Camp Fire destroyed Paradise and Magalia.

I've had a varied professional career as a Technician, Manager and Entrepreneur in the satellite communications industry for over 35 years.

JOTA: October 15-17, 3021

When Scouts want to meet young people from another country, they usually think of attending a World Jamboree. But few people realize that each year more than a million Scouts and Guides "get together" over the airwaves for the annual **Jamboree-on-the-Air** (JOTA). During the 2014 event, worldwide Scouting participation included 1.1 million Boy Scouts and 200,000 Girl Guides/Gils Scouts, for a total participation of over 1.3 million--the largest Scouting event in the world.

Modern technology offers Scouts the exciting opportunity to make friends in other countries without leaving home. JOTA is an annual event in which Boy and Girl Scouts and Guides from all over the world speak to each other by means of Amateur (ham) Radio. Scouting experiences are exchanged and ideas are shared via radio waves. Since 1958 when the first Jamboree-on-the-Air was held, millions of Scouts have met each other through this event. Many contacts made during JOTA have resulted in pen pals and links between Scout troops that have lasted many years. With no restrictions on age or on the number of participants, and at little or no expense, JOTA allows Scouts to contact each other by ham radio. The radio stations are operated by licensed amateur radio operators. Many Scouts and leaders hold licenses and have their own stations, but the majority participate in JOTA through stations operated by local radio clubs and individual radio amateurs. Some operators use television or computer-linked communications. (ARRL.com)

ARRL Responds to Story of Radio Amateur Told to Remove His Antenna

ARRL.com 09/02/2021

ARRL has responded to an Orlando, Florida, news story on August 23, 2021 by WFTV Channel 9 alleging a radio amateur was told to remove his antenna by the management of his subdivision following a complaint made by a neighbor.

"The news story appears to stem from a 2-year-old complaint from a neighbor who believed her insulin pump had malfunctioned due to the radio amateur's operations 'a few doors down,'" said ARRL Laboratory Manager Ed Hare, W1RFI. "The story is lacking any details or timeline, so I contacted the radio amateur involved for information, and volunteered ARRL's assistance."

Hare explained that medical devices such as insulin pumps are regulated by the US Food & Drug Administration (FDA) specifically for electromagnetic compatibility (EMC) purposes and are expected to be capable of operating in all the RF environments likely to be encountered by consumers. FDA published guidance for its staff and industry defines EMC with respect to electrically powered medical devices "as the ability of a device to function safely and effectively in its intended electromagnetic environment, including immunity to electromagnetic disturbance (interference)." FDA review of EMC information submitted with a device for approval "is based on the risk associated with EMC malfunction or degradation of the device under review, as well as the use of appropriate FDA-recognized standards or appropriate consensus standards."

Hare noted there is an FDA recall for the model number of the insulin pump in question, in approximately the same time frame. "But with so few details, there is no way of knowing whether that recall applies to the serial number used or whether the exact unit has the mechanical defect indicated in the recall notice that could cause the malfunction," explained Hare.
It also became apparent that there is no actual evidence connecting the amateur's transmissions to operation of the insulin pump. Hare was told that the amateur agreed to run tests to establish whether there was a cause and effect, but the neighbor declined.

Hare commented, "While there are no requirements for a radio amateur to stop transmitting due to alleged interference to a non-radio device, the preferred path with any complaint is for neighbors to work together."

Registration Now Open for AMSAT Space Symposium

ARRL.com
08/26/2021

Registration is now open for the 39th AMSAT Space Symposium and Annual General Meeting, Friday through Sunday, October 29 – 31, at the Crowne Plaza AiRE in Bloomington, Minnesota, adjacent to the Minneapolis-St. Paul International Airport. General registration is $75, and student registration is $40. Registration for the Saturday evening Symposium Banquet is an additional $55. Registration includes a digital copy of the 2021 AMSAT *Symposium Proceedings* and admission to the Symposium presentations and exhibits.

The AMSAT Board of Directors will meet Thursday and Friday, October 28 – 29. AMSAT Space Symposium presentations will start at 1 PM CDT on Friday and continue until 5 PM. The AMSAT Reception is set for 7 PM on Friday. AMSAT Space Symposium presentations will continue on Saturday, October 30, 8 AM – 3 PM (with a 1-hour lunch break at noon). The AMSAT General Meeting gets under way at 3 PM on Saturday. The banquet will begin at 7 PM, preceded by a reception at 6 PM. The 3-day event wraps up with the AMSAT Ambassadors' Breakfast on Sunday at 7 AM.

Attendees may make reservations by calling the hotel directly at (952) 854-9000 or (877) 424-4188 (toll free) or online at **crowneplazaaire.com**. The group name is Amateur Satellite Group. Platinum and Titanium members of the AMSAT President's Club receive free admission to the Symposium and a complimentary lunch with the President on Saturday afternoon. Email **members@amsat.org** to arrange registration.

Presenters are invited to participate at the Symposium and/or submit a paper to the *Symposium Proceedings*. The **Call for Papers** includes more information.

GENESIS Ham Satellites among Payloads Lost in Launch Failure

ARRL.com 09/07/2021

The GENESIS-L and GENESIS-N ham radio satellites were among several carrying amateur radio payloads lost following the failure of the Firefly Alpha rocket during its first launch on September 2 from the Vandenberg Space Force Base in California. An anomaly occurred about 2 minutes into the mission, causing controllers to destroy the launcher in flight. The anomaly has yet to be explained.

This was sad news for AMSAT-EA (Spain), as GENESIS-L and GENESIS-N were the first satellites they had built themselves.

According to the AMSAT-EA website, the GENESIS satellites were destroyed after the Firefly Alpha vehicle presented an anomaly as it hit a velocity of Mach 1 and reached Max Q, a point of maximum aerodynamic pressure on the vehicle. The launch had been halted a few seconds before takeoff, but the countdown was subsequently resumed.

GENESIS-L and GENESIS-N were to conduct a series of telecommunications-related experiments, while a ground-station analysis of the received signals would try to attain Doppler variations in order to perform orbit determination and satellite identification from radio amateur stations around the world.

Also lost in the launch failure were the Serenity, Hiapo, the Cresst Dream Comet, and QUBIK-1 and QUBIK-2 satellites, and Spinnaker-3/Firefly Capsule 1. All were designed to use amateur radio frequencies for telemetry and/or communication.

Serenity, a 3U CubeSat, was developed by Teachers in Space (TIS) to provide low-cost opportunities to test educational experiments in space. TIS has previously guided high schools and other academic institutions in developing and flying sub-orbital experiments using high-altitude balloons, stratospheric gliders, and rockets. This was the first orbital satellite mission for TIS. Serenity carried a suite of data sensors and a camera to send data back to Earth using amateur frequencies.

Hiapo was an educational 1U CubeSat developed by the Hawaii Science and Technology Museum (HSTM). The Hiapo project was intended to provide hands-on STEM curriculum for Hawaii students in grades K – 12. Part of this curriculum involved obtaining data about solar flares, solar particle events, and disturbances in Earth's magnetic field. Data would be available for amateur operators to download directly from the satellite.

The Cresst Dream Comet was a 3U CubeSat developed by the University of Cambridge as a small satellite for technology demonstrations.

QUBIK-1 and QUBIK-2 were picosatellites developed by the Libre Space Foundation, a nonprofit association developing PocketQube picosatellite technology. They were built following the **1P PocketQube** form factor. The mission of these satellites was similar to that of the GENESIS-L and GENESIS-N satellites.

Spinnaker-3 was a collaboration between the Cal Poly CubeSat Laboratory, Purdue University, and NASA. It was designed to provide rapid de-orbit capability for the second stage of Firefly Alpha's launch vehicle, using frequency shift keying (FSK) on 70 centimeters for communications. Firefly Capsule 1 consisted of nontechnical items from around the world, including photos, artwork, and books.

Sailing Vessel with Ham Radio History Marks 100 Years

ARRL.com 08/19/2021

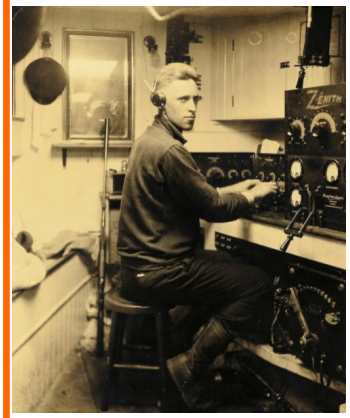
The schooner *Bowdoin* is a century old this year. Now owned by the Maine Maritime Academy (MMA) as a training vessel, the ham radio history of the 88-foot (LOA) *Bowdoin* is often neglected. Constructed in Maine specifically for Arctic exploration, the vessel relied on amateur radio for communication during explorer Donald B. MacMillan's Arctic Expedition of 1923 and on the MacMillan-McDonald-Byrd Expedition of 1925 — thanks in part to ARRL co-founder Hiram Percy Maxim, W1AW. The venerable vessel, the official vessel of the State of Maine and the flagship of Maine Maritime Academy's Vessel Operations and Technology Program, recently underwent a complete hull restoration and refitting and has done a little touring to mark its centenary. Its home port is Castine, Maine.

The longwave transmitters MacMillan used on his earlier missions had proved "unable to penetrate the screen of the aurora borealis," then-ARRL historian Michael Marinaro, WN1M (SK), explained in his article, "Polar Exploration," from the June 2014 issue of *QST*. In 1923, MacMillan turned to ARRL for help in outfitting his next expedition with better wireless gear. Marinaro recounted, "It was enthusiastically provided." Maxim and the ARRL Board recruited Donald H. Mix, 1TS, of Bristol, Connecticut, to accompany the crew as its radio operator.

M.B. West, an ARRL Board member, designed the gear, which was then built by amateurs at his firm, Zenith Electronics. The transmitter operated on the medium-wave bands of 185, 220, and 300 meters, running 100 W to a pair of Western Electric "G" tubes. Earlier exploratory missions had used gear that operated on longwave frequencies. The shipboard station on board the *Bowdoin* was given the call sign WNP — Wireless North Pole.

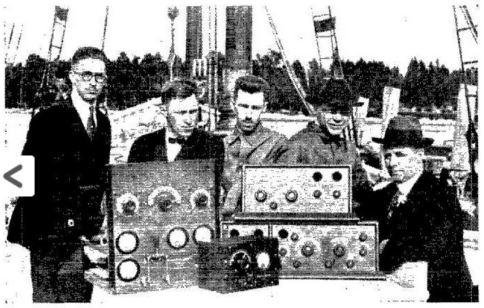
"WNP transmitted weekly 500-word press releases and listings of stations worked and heard," Marinaro said. "Once received by amateur stations, these reports were delivered to local affiliated newspapers of the North American Newspaper Alliance; from there, they were distributed syndicate-wide by telegraph."

MacMillan's subsequent attempt at the North Pole centered around wireless. The objectives supported by the Navy and the National Geographic Society were to determine the full capabilities of radio north of the auroral belt and to explore the northern reaches by air. The outstanding accomplishment of the 1925 expedition was in the sphere of radio. Utilizing shortwaves, the expedition was in consistent contact with the outside world throughout the journey, to the delight of the amateurs who were able to work them. The phenomenal success proved to the Navy that shortwaves were definitely superior to the longwaves and ultra longwaves that fleets had been using.



Don Mix, 1TS, in the Bowdoin radio room. [Courtesy of Pete Varounis, NL7XM]

Don Mix, 1TS, in the Bowdoin radio room. [Courtesy of Pete Varounis, NL7XM]



ON BOARD THE "BOWDOIN," AFTER UNPACKING THE EQUIPMENT from a mountainous pile of packing cases. Left to right, F. H. Schnell, A.R.R.L. Traffic Manager; D. H. Mix, WNP's operator; K. B. Warner, Editor of "QST"; M. B. West, Zenith engineer who designed the installation; and Dr. MacMillan, the "Bowdoin's" skipper.

Don Mix, 1TS, in the Bowdoin radio room. [Courtesy of Pete Varounis, NL7XM]

FCC Finalizes Changes to Part 95 Rules

The move will allow frequency modulation to be used as an optional modulation scheme on the CB radio service; also will allow automatic data transmissions on GMRS and FRS

BY SUSAN ASHWORTH
PUBLISHED: AUGUST 7, 2021; UPDATED: AUGUST 9, 2021 RADIOWORLD.COM

The Federal Communications Commission will amend its rules governing short-range, low-power radio services that will affect the CB radio service, general mobile radio services (GMRS) and family radio service (FRS).

At its Open Meeting on Aug. 5, the FCC ruled on three petitions for reconsideration of the 2017 Report and Order to update the commission's Part 95 personal radio services rules. The move will allow frequency modulation to be used as an optional modulation scheme for all existing CB radio service channels and allow automatic or periodic location and data transmissions in the GMRS and FRS, which are sometimes used during recreational activities and during emergencies and natural disasters.

The commission decided the public interest would be served by adopting additional rule changes. Cobra Electronics requested the commission permit frequency modulation as an optional modulation scheme in the CB radio service. Motorola Solutions asked the commission to allow automatic or periodic location and data transmissions on GMRS and FRS frequencies. Medtronic sought the correction of typographical errors and rule changes that inadvertently altered the substance of the Medical Device Radiocommunications Service (MedRadio) rules.

When the FCC last considered changes to Part 95 rules surrounding CB radio in 2017, the commission declined to allow use of frequency modulation; amplitude modulation and SSB single side band remained the only permitted voice-emission types. At the time, the commission concluded that such a change might substantially change the character of the service.

After considering Cobra's request, however, the commission found that permitting dual modulation will provide a significant benefit to CB radio users, giving them an additional modulation option while still maintaining the basic character of the service. "The addition of FM as a permitted mode will not result in additional interference because users who hear unintelligible audio on a particular channel can simply select another channel or switch modes," the commission said in its most recent ruling.

Cobra 29LTD Classic CB Radio

The commission noted that amplitude modulation and frequency modulation operations are permitted in other Part 95 services under similar technical parameters. The commission will generally apply the technical rules to FM signals as they are currently applied to AM signals for the CB Radio Service, an approach taken in other Part 95 services.

The commission also made a specific note about peak frequency deviations. In those cases, the commission said it adopted a limit of ±2 kHz due to the 10 kHz channel spacing and 8 kHz occupied bandwidth maximum in the CB radio service. Although this specific limit differs from those established in other Part 95 services (such as ±2.5 kHz for 12.5 kHz channel bandwidth in the GMRS and Multi-Use Radio Service [MURS]), it is consistent across Part 95 services considering the respective occupied bandwidths.

The commission noted that parties planning to incorporate FM mode into CB radios will need to obtain a grant of certification under the commission's equipment authorization rules.

The commission also agreed with Motorola's petition and concluded that public interest will be furthered by allowing automatic or periodic location and data transmission on all GMRS channels. In an emergency situation, the FCC said, an individual who is disoriented or unable to send a manual transmission could be helped by the automatic transmission of location information.

The commission also agreed to fix typographical errors, clarify language within the Part 95 rules and correct unintended substantive changes made in earlier changes as part of this petition for reconsideration.

CALENDAR

Council Meeting - **4th Wednesday** of the month
Call Joe - WB6MYD (310) 328-0817

Club Meeting - **3rd Thursday of the month**
September 16, 2021 - 7:30 p.m.

Via Zoom
(look for email invite from
jmlanphen@gmail.com a few days before)

Club Nets - **W6SBA WEEKLY NET**
Every Thursday @7:30pm
(except the night of club meetings)
PVUSD EMERGENCY NET
1st Tuesday of the month
09:30 Hours on the W6SBA repeater

TRW Swap Meet **Cancelled Until Further Notice**

VE Sessions - **Cancelled due to Covid-19**
Contact Betty, N6VZF, with questions
(All VE sessions are scheduled for Room 4 in the Health Conference Center)

Social Event - **Contact: Joe WB6MYD**
Phone: (310) 328-0817
jmlanphen@gmail.com

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South Bay Amateur Radio Club Repeater

224.38 MHz ·PL - 192.8 Hz Offset -1.6 MHz
(See Calendar for Weekly Net Times)

NEWSLETTER SUBMISSION

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