



A Fresno Amateur Radio Club Newsletter May, 2017 Volume 79, Issue 5

Meeting location! East of Hwy. 41 on Shaw Av.
7 P.M. on the second Friday of the month at the University of California Center at 550 E. Shaw.



FARC General Meetings

are held the 2nd Friday of each month, 7 p.m. at the University of California Center on Shaw Ave. unless otherwise noted. Stay tuned in for new announcements.

2017 FARC BOARD MEETING DATES
1st Tuesday of each month this month at WB6VRJ's QTH.

FARC Nets

Morning Drive Time Net:
Weekday mornings-
7:30-8:00 a.m.
W6TO/R 146.940

Tech Net:

Wednesdays @ 7:00 pm
W6TO/R 146.940

FARC Net:

Sundays @ 7:00 pm
W6TO/R 146.940

President's notes:

The Club President sends late Easter and Passover Greeting to all to whom it may apply-and for Atheists, one Judge has ruled they do have a holiday-April 1st.

Naw, I do not mean to be offensive, it is just time to have fun with everyone-and being the receiver of many jokes on me, it is only fit and proper.

I do hope that everyone did have an Easter Egg that contained some Ham Goodie for them-that is always nice to get.

Spring is here! It is time to finish getting that antenna up, to refresh our memory of CW, and renew that list of favored contacts. While it appears there will not be the usual June Field Day, I am inviting anyone who wants to put together a small kind of FD to do so, and keep me posted.

Hey, the May Club meeting is coming up, and y'all be there-should be another great program, thanks to our outstanding secretary, Joe, WA6FFJ.

So, until I see all youse hams at the Club Meeting, 73 and the best of wishes to all.

W. Stuart Home WB6VRJ

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2017 meetings! More great programs and events coming this year!

May 12th meeting- Mark K6MTS, A QRP Backpacking Adventure in the High Sierra Wilderness

Mark's article on this subject was published in the February issue of CQ magazine this year, and he will give us an interesting presentation on the details of his adventure.

The April program was "The 811 Process, Know What's Below"

The March program was a WSJT video by the author, Nobel Laureate, Joe Taylor, K1JT

The February meeting was a presentation of the 220 Mc. Condor system.

January program was about 6M FM, Alan WA6IPZ, speaker.

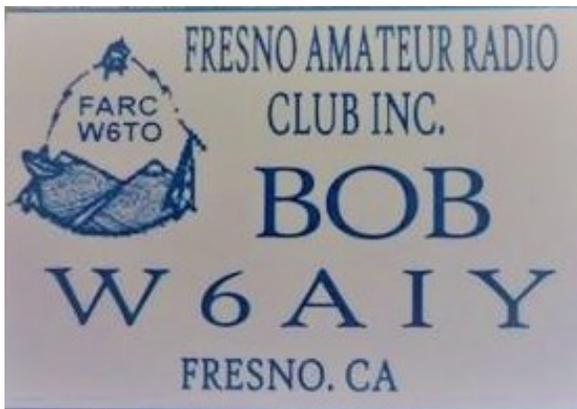
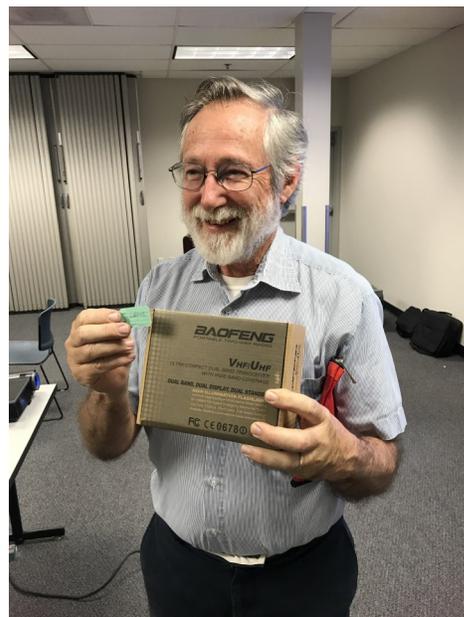
Coming attraction:

We will have a meeting on August 11th and the picnic on August 19th. So August will be a busy month.

Joe, WA6FFJ, has scheduled the program with Jim Anderson to speak on the Code Talkers service men that were used in WWI and WWII.

It works out that the Special Event Station N7C has their event on August 13-16 celebrating the service these men performed for the defense of our military, and the world.

Just when Skip editor John, K6MI was ready to take a picture of the first prize raffle winner, his ticket was drawn! The club continues having some big prizes for the raffle, including some hand held radios.



More information on club badges on page 17! Renewal form on page 18!

FARC

Send your dues check to FARC, PO Box 5912, Fresno 93755-5912

Refer questions to Joe/WA6FFJ 288-2202 Board meeting on the first Tuesday at Stu's place.

Local Amateur Radio Repeaters

<u>Organization</u>	<u>Call Sign</u>	<u>Frequency</u>	<u>Offset</u>	<u>PL</u>
CARP	K6ARP	147.675	-	141.3
CARP	N6JXL	224.380	-	141.3
CARP	K6ARP	444.725	+	141.3
CARP	NI6M	440.350	+	141.3
CONDOR	WB6BRU	224.900	-	156.7
FARC	W6TO	146.940	-	141.3
FARC	W6TO	223.940	-	141.3
FARC	W6TO	444.200	+	141.3
BRA	W6FSC	145.230	-	141.3
BRA	W6FSC	443.450	+	141.3
KINGS ARC	N6CVC	145.110/444.95	-	100.0
NC9RS	NC9RS	927.6625/902.0125	-	146.2
MADERA ARC	W6WGZ	147.180	+	146.2
MADERA ARC	W6WGZ	441.175	+	146.2
QCWA	WQ6CWA	146.850	-	141.3
QCWA	WQ6CWA	443.250	+	107.2
RACES	N6HEW	147.150	+	141.3
SJVARs	KE6JZ	146.820	-	141.3
TURLOCK ARC	W6BXN	147.030	+	100.0
W6NIF	W6NIF	444.100	+	100.0
WINSsystem	K6JSI	146.790	-	100.0
WINSsystem	K6JSI	444.250	+	100.0
CVRC	K6WGJ Fresno Low	145.43	+	141.3
CVRC	N6VRC Meadow	147.165	+	141.3
CVRC	N6VRC Meadow	440.025	+	141.3
CVRC	N6VRC Santa Rita	147.285	+	141.3
CVRC	N6VRC Santa Rita	442.275	+	141.3
CVRC	N6VRC Visalia	442.525	+	141.3
CRVC	N6VRC Porterville	443.825	+	141.3
CVRC	K6WGJ Fresno Low	444.975	+	141.3
CVRC	N6VRC Bear Mt.	443.950	+	141.3
CVRC	N6VRC Mt. Bullion	442.350	+	141.3
CVRC	Bear	927.05	+	141.3
Meadow Lakes	WA6OIB	146.61	-	141.3

Anniversaries:

05/06 Mary and David KA6VTA
 05/12 Craig W6CMR
 05/26 Dean AF6MC

Ten meter net, CW and Phone, every Wednesday
 7 P.M. for CW at 28.140
 8 P.M. for SSB at 28.445

This is a local net, the cw part run by KF6ZXO, and the SSB part by Doyle, W6OEZ. Have fun checking in on one or both modes.

Joe, WA6FFJ, is our net control operator for the W6TO nets.

Birthdays

05/14 Gordon KQ6TG
 05/15 Larry K6VLF
 05/16 Bill K6WGJ
 05/17 Dan AE6SX
 05/21 Ron N6MTS

The monthly door prize!

The attendance prize in April was won by Steve, AG6JI, who was present. Must be present to win. Attendance prize will be \$10 next month.



Fresno Amateur Radio Club

FRESNO AMATEUR RADIO CLUB, INC.

2017

Exams for all Amateur license classes will be conducted on the following dates in Fresno California. All exams are given on Saturday and begin at 9:30 AM.

May 20

August 19

November 18

LOCATION:Salvation Army Fresno Citadel, 1854 Fulton Street, Fresno CA 93721

DIRECTIONS: From North or South of Fresno, Take Highway 99 to Highway 180 east. Go east on 180 to Fulton Street off ramp. Turn right on Fulton Street. Go south on Fulton across Divisadero to Sacramento Ave. Turn left on Sacramento Ave and park. You have arrived.

Theory exams are multiple choice. First Class mail is used to send paperwork to ARRL, who sends data to FCC via electronic mail, thus assuring the fastest possible service on new licenses, which typically are posted to the FCC database by the end of the second week following the exam.

BRING. Two ID's, one with photo. Taxpayer ID Number (Social Security Number), or FCC Registration Number (**preferred**). Fee **\$15.00** per test session. Bring exact change. **Original and copy of Amateur License.** Talk in on 146.94 repeater.

Walk in's only, no pre-registration.

More Info?? Contact Charles, (559) 431-2038

T-HUNT

Membership in a radio club is not a requirement to join in on the fun, but a radio tuned to the hunt frequency of 146.565 MHz is.

Upcoming Transmitter Hunt Dates

- Please arrive early to check in for the Saturday hunts
- Please use and monitor the K6ARP repeater during the hunt for voice communication.

Future hunt dates:

July 15, Sat.



Nov. 11 (at the
FARC Swap meet)



THE DX CORNER

By Charles McConnell W6DPD

May 2017

"DX is the one you want but you don't have. That is the way it has always been, that is the way it will always be."

Of the most recent DXpeditions, "If you worked it, it was the best DXpedition ever. If you missed it, it was probably not so good." "And so it goes."

All things are relative, some more than others. Thanks Hugh Cassidy, WA6AUD SK.

If you want help with DX, you can contact the local members of the Central California DX Club for some assistance. Charles W6DPD 431-2038, or Perry K6XJ 299-2802, can give you advice. The big thing about finding DX is to tune the bands.

The DX Breakfast is every Saturday at Jeb's Blueberry Hill Café, 3851 N. Blackstone Ave in Fresno. This group gathers about 06:30 AM. All are welcome.

Check out www.spaceweather.com and www.solarham.net for information on the solar cycle. The higher the solar flux and the lower the A and K Indices, the better the band conditions.

As the solar cycle heads toward the minimum by the end of the decade, working DX becomes more of a challenge. The high bands become less useful until the solar cycle heads toward the maximum, some years from now.

The address of the Sixth District QSL Bureau is P. O. Box 970, Fairfax CA 94978-0970. You can send up to 10 address labels and \$0.80 for each envelope to the address above. They will put 1 unit of First Class postage on the envelope. You can contribute \$10 or \$20 online using Paypal. If you work DX, you should have envelopes at the bureau so you can get your cards. You may be able to check your status at the bureau at <http://www.qslbureau.org/>

The ARRL Outgoing QSL Service has raised the rates, effective November 1, 2016, for sending ARRL members QSL cards to foreign countries. The new rate is \$1.15 per ounce, about 10 cards. There is now a \$7.00 transaction fee for each submission. Sending one ounce of cards (about 10) will now cost \$8.15. Ten ounces of cards would cost \$11.50 plus \$7.00.

U.S. Postage has been increased. Overseas postage is \$1.15; domestic postage is \$0.49 for 1 ounce. Additional ounce for domestic mail will be \$0.21. Postcards are \$0.34.

If you don't get a DX Bulletin and you belong to ARRL, you should register on the members only web page and check the box for the ARRL DX Bulletin. This one is emailed each Thursday.

Or you can go to the ARRL web page in the News/ Bulletin section and view the bulletins there. You can also read the OPDX Bulletin or the 425 DX Bulletin on the web. Search OP DX Bulletin or 425 DX Bulletin to get the URL. You can subscribe to the Daily DX, Weekly DX or QRZ DX too. These bulletins will keep you informed of DX operations and QSL information.

Fresno Amateur Radio Club

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The following operations are scheduled:

Djibouti **J28PJ** for 3 to 5 years

Djibouti **J28ND** Now

Ascension Island **ZD8D** maybe an October 2011 start

Angola **D2CQ** February 2010 for a few years

Maldives **8Q7MJ** now through May 28, 2017

Svalbard **JW2US** now through June 2017

Botswana **A25UK** April 25 to May 6, 2017

Gabon **TR8CA** September 15 for 4 years

Guinea Bissau **J5T** by Italian DX Team Delayed to late 2017

Tuvalu **T2TT** March 23 to April 13, 2017

Rotuma Island **3D2AG/P** April 2 to April 22, 2017

Guinea Bissau **J5B** and **J5W** April 7 to April 15, 2017

St. Martin **FS/VE1KG** now through April 30, 2017

Vietnam **3W9DQ** May 1 to May 10, 2017

Fernando de Noronha **PY0F** May 5 to May 15, 2017

Eritrea **E39DI** May 19 to 29, 2017

Montenegro **407GO** June 18 to June 28, 2017

Market Reef **OJ0V** July 1 to July 7, 2017

ST. Pierre & Miquelon **FP/KV1J** July 4 to July 18, 2017

Central Kiribati **T31** Planning for sometime in 2017

Botswana **A25AL** September 2017

Galapagos Islands **HC8M** September 14 to 21, 2017

Baker Howland Islands **KH1** planning for September-October 2017

Guinea **3XY4D** October 27, through November, 2017

Temotu **H40GC** October 3 to October 17, 2017

Christmas Island **VK9XI** October 3 to October 10, 2017

Cocos-Keeling Island **VK9CI** October 10 to October 17, 2017

Cocos-Keeling Island **VK9CZ** October 23 to November 6, 2017

Agalega & St. Brandon **3B6**, **3B7** October 17 to October 29, 2017

Guinea-Bissau **J5T** November 2017

Burundi **9U5M** November 6 to November 17, 2017

Spratly Islands **9M0W** March 10 to March 20, 2018

West Malaysia **9M2MRS** December 1, 2017 through January 2018

Bouvet **3Y0Z** Planning for late 2017 or early 2018

Trinidad **ZZ0T** sometime in 2018



Charles, W6DPD

Watch the DX Bulletins for up to date information. As the time for the operation is at hand, watch the DX Summit (www.newdxsummit.fi) for listings. There are a number of state QSO parties each year. Check the contest corral in QST or the ARRL web page. State QSO parties are a good place to collect states for your Worked All States award. ARRL Log Book of the World now supports the Worked All States Award and the WPX Award.

Good luck, tune the dial, and listen.

How To Contact The Voyager 2 Probe - YouTube (Walter Clark)

<https://www.youtube.com/watch?v=FzRP1qdwPKw>

You guys will be able to understand every word of this extemporaneous but fascinating talk on receiving -158 dBm signals.

Fresno Amateur Radio Club



EC Report for April 2017

Hi All,

The schedule for the month of April was: 4 Monday Night EmComm Nets and 1 EmComm and Coffee, 1 EmComm Monthly Meeting, 1 radio workshop and 2 public service events.

Radio Workshop?

At April's Radio Workshop we had one of our lightest turnouts; we had a total of five members in attendance. The problem was all who attended were our seasoned members. The Workshop was designed to help our new hams with any difficulties or questions they had with their new hobby. I would like to get some feedback, **do you think that we should have the workshops every month or bimonthly, quarterly or not at all.** Please email me and let me know. I don't want to continue something that the group doesn't want. This is your organization not just mine or the officers.

Public Service Calendar

Upcoming EMCOMM Events

April 29, 2017 - March of Dimes

May 6, 2017 - Kirch Flat Bicycle Ride

June 24, 2017 - Climb to Kaiser Bicycle Ride

September 16, 2017 - Tour de Fresno Bicycle Ride

October 14, 2017 - Bass Lake Double Century Bicycle Ride

If you are interested in the working any of the events please either go to the CARP website or contact me.

Just A Reminder

Amateur Radio Emergency Communications Training Course – Dr. John A. Allocca, WB2LUA

10 Principles of Disaster Communication

Principles of Disaster Communications

- Keep the non-critical communications level down.
- If you're not sure you should transmit, don't.
- Study the situation by listening.
- Don't transmit unless you are sure you can help by doing so.
- Don't ever break into a disaster net just to inform the control station you are there if needed.
- Monitor established disaster frequencies.
- On CW, SOS is universally recognized.
- On voice, "MAYDAY" or "EMERGENCY" is universally recognized.
- Avoid spreading rumors.
- Authenticate all messages.
- Strive for efficiency.
- Select the mode and band to suit the need.

Fresno Amateur Radio Club

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Message Handling

1. Speak in plain language.
2. Speak slowly and clearly.
3. Remain calm at all times.
4. If you have an emergency message, state the word "emergency" followed by your call sign.
5. If you have a priority message, state the word "priority" followed by your call sign.

Emergency – any message having life and death urgency to any person or group of persons.

Priority – any important message that has a specific time limit.

Welfare – can be either an inquiry as to the health and welfare of an individual in the disaster area, or an advisory from the disaster area that indicates all is well.

Routine – Most traffic will be routine in nature. In a disaster situation, routine messages should be handled last.

EmComm Website

We are now posting events and meetings on the calendar as well as posting articles on the home page. Check us out at fcmcomm.org.

Net Control Staff Needed

We are looking for volunteers to take a turn as net control on Monday nights. This is not a difficult task. We will provide the preamble and net roster. This is a great way to enhance your skills running a net for emergency situations. If you are interested, please contact Gary (KI6OYW) at 559-269-1340 or email g_greenberg@att.net

Our Calendar

Don't forget the **Monday Night EmComm Net** at 19:30 hr. on the 147.15 MHz PI 141.3. We have some good information and camaraderie. On the third Friday of the month there is the **EmComm & Coffee** at YFC on Cedar south of Ashlan in Granite Park at 07:00hr. And last but not least the EmComm Meetings are held on the Fourth Thursday of month. Our next meeting will be **May 25, 2017 at 1900 hr.** at the Salvation Army Citadel at 1854 Fulton St., Fresno.

Best of 73's

GLEN CAINE (N6HEW)

Fresno County RACES Officer

Fresno County ARES EC

559-999-7590

N6HEW2@gmail.com



Glen, N6HEW talking to Ron, N6MTS

Fresno Amateur Radio Club



On the Thursday before the DX convention Paul, W0AIH arrived in Fresno nine hours before his friend, W0GJ, was to arrive and give him a ride to Visalia.

With time to visit, he was a guest at the Thursday ham lunch, meeting a dozen local hams, and having a bite to eat.

Paul is a CQ Hall of Fame recipient, a retired Lutheran Minister, and has 120 acres of land in Wisconsin, which he has populated with fifty (50) towers! His signal is heard wide and far, and many of us have his call in our logs.

After lunch he had a tour of Jerry's (K6PKO) ham museum, where he was treated to visions of all sorts of radios looking as good (or better) than new.

He was introduced to one of Jerry's cleaning fluids, Simple Green.

After that he went to Perry's place (K6XJ) for a visit, and then over to John's, (K6MI) for dinner.

After this whirlwind tour, he was off to the DX convention, where he seemed to know everyone.

He had more energy at 83 than most everyone there, going to the Top Band Dinner, and many tech talks, and could be seen in the hall ways talking to many during the interludes.

On Sunday he caught a flight to Salt Lake City, where he had to wait until 5 A.M. to catch his flight to home, where he could finally catch some rest.



CB/HAM RADIO SWAP MEET VE TEST SESSION

BBQ HAMBURGERS

SATURDAY 5-20-17

8AM-12PM



**BRING YOUR ELECTRONIC EQUIPMENT
FOR SALE OR TRADE**

THERE WILL BE A RAFFLE

HOSTED BY

RED MONKEY

**CENTRAL VALLEY RADIO CLUB
MADERA AMATEUR RADIO CLUB**

AT

NORTHPOINTE COMMUNITY CHURCH

4525 W PALO ALTO AVE FRESNO

MILBURN SOUTH OF HERNDON

559-277-4RED

Fresno Amateur Radio Club

07:00 - 11:00	Registration (Registration Area)												
08:00 - 17:00	Raffle Ticket Sales (Registration Area)												
09:00 - 17:00	Exhibits and Displays Open												
09:30 - 09:15	New Product Showcase (Charter Oak A-B-E)												
10:00 - 17:00	N6V Special Event Station Open (Exhibit Hall)												
10:30 - 10:25	DX Forum - Chaired by Bob, K4JEE (Charter Oak A-B-E)												
11:00 - 15:00	Saturday Bus Tour of Local Area Depart From Convention Center Main Entrance on Acequia Ave												
12:00	Hourly Prize Drawing #1												
10:30 - 11:25	Contest Forum - Chaired by Bob, N6TV (Charter Oak A-B-E)												
11:30 - 13:30	Saturday Buffet Lunch (Plaza Courtyard)												
12:00	Hourly Prize Drawing #2												
13:00 - 16:00	DXCC & WAZ QSL Card Checking (Kings Canyon Room)												
DX & Technical Presentations													
	<table border="1"> <tr> <td>San Joaquin A-B-C-D Track A Monitor: Lee, KY7M</td> <td>Charter Oak A-B-E Track B Monitor: Ned, AA7A</td> </tr> <tr> <td>(new) YL Forum Gayle, K6GO</td> <td>Remote Access To Your Amateur Radio Station Mark, K6UFO</td> </tr> <tr> <td>ClubLog: Integration With LoTW Michael, G7VJR</td> <td>How Much Did That QSO Really Cost? Financing a DXpedition Don, N1DG</td> </tr> <tr> <td>V6Z Chris, GM3WOJ</td> <td>Cycle 24, Cycle 25, 160m, and Cloudwarmer Antennas Carl, K9LA</td> </tr> <tr> <td>TO5FP - St. Pierre & Miquelon Island Laurent, F5TMJ</td> <td>Deleted Entities Chase Jim, W6YA</td> </tr> <tr> <td>DXpedition Doctor: Linking DXpedition Adventures With Medical Preparedness Amie, N6HC</td> <td>ARRL Forum Bob, W6RGG</td> </tr> </table>	San Joaquin A-B-C-D Track A Monitor: Lee, KY7M	Charter Oak A-B-E Track B Monitor: Ned, AA7A	(new) YL Forum Gayle, K6GO	Remote Access To Your Amateur Radio Station Mark, K6UFO	ClubLog: Integration With LoTW Michael, G7VJR	How Much Did That QSO Really Cost? Financing a DXpedition Don, N1DG	V6Z Chris, GM3WOJ	Cycle 24, Cycle 25, 160m, and Cloudwarmer Antennas Carl, K9LA	TO5FP - St. Pierre & Miquelon Island Laurent, F5TMJ	Deleted Entities Chase Jim, W6YA	DXpedition Doctor: Linking DXpedition Adventures With Medical Preparedness Amie, N6HC	ARRL Forum Bob, W6RGG
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14:00	Hourly Prize Drawing #3												
16:00	Hourly Prize Drawing #4												
17:00 - 18:00	DX Bar: Attitude Adjustment Hour Sponsored by CADXA and Individual Sponsors (Eucalyptus Courtyard)												
19:00 - 21:30	DX Convention Awards Banquet (Banquet Hall) Emcee: Chip Margelli, K7JA Tribute To Dave Bell, W6AQ Keynote Speaker: "The Funny Side Of Radio" - Bob Beebe, GU4YOX Announcements Major Prize Drawings												
21:30 - 23:00	NCCC Hospitality Suite (San Joaquin A-B)												
Sunday, April 23, 2017													
07:30 - 10:00	Breakfast Buffet												

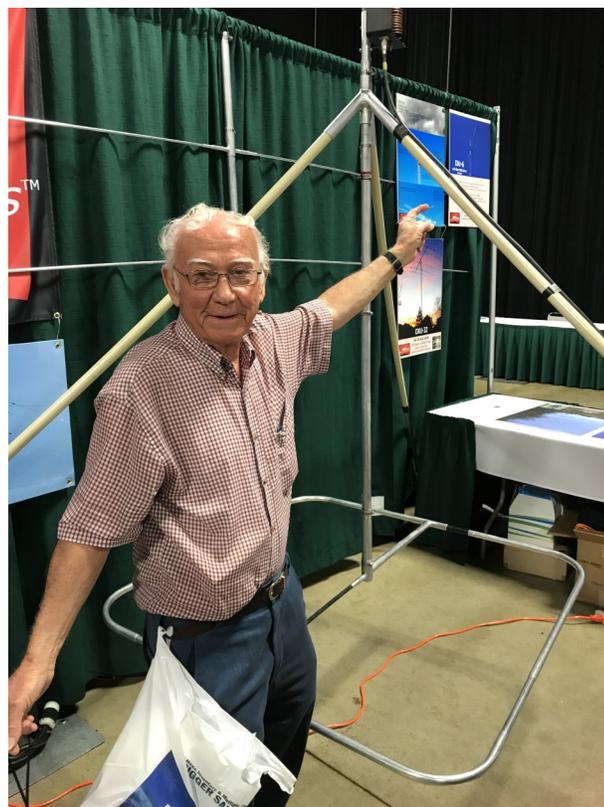


Some highlights from the April DX Convention! Programs galore, exhibit hall full of goodies, including a monster tower and many antennas.

Clockwise is a picture of K6MI, Glen W6GJB, and Dr. Jerry, K6MD, who is a one star Army general, now retired. He had some great stories to tell.

The banquet hall seated 800 for the Sat. night dinner. Ken and Arlen were seen at the M2 booth, and Varouj was looking at an antenna at the Force 12 booth.

US Towers had an antenna trailer in use for the special event station.



HISTORY OF THE CAR RADIO

Here's the story:

One evening, in 1929, two young men named William Lear and Elmer Wavering drove their girlfriends to a lookout point high above the Mississippi River town of Quincy, Illinois, to watch the sunset.

It was a romantic night to be sure, but one of the women observed that it would be even nicer if they could listen to music in the car. Lear and Wavering liked the idea. Both men had tinkered with radios (Lear served as a radio operator in the U.S. Navy during World War I) and it wasn't long before they were taking apart a home radio and trying to get it to work in a car.

But it wasn't easy: automobiles have ignition switches, generators, spark plugs, and other electrical equipment that generate noisy static interference, making it nearly impossible to listen to the radio when the engine was running.

One by one, Lear and Wavering identified and eliminated each source of electrical interference. When they finally got their radio to work, they took it to a radio convention in Chicago.

There they met Paul Galvin, owner of Galvin Manufacturing Corporation. He made a product called a "battery eliminator", a device that allowed battery-powered radios to run on household AC current.

But as more homes were wired for electricity, more radio manufacturers made AC-powered radios.

Galvin needed a new product to manufacture. When he met Lear and Wavering at the radio convention, he found it. He believed that mass-produced, affordable car radios had the potential to become a huge business.

Lear and Wavering set up shop in Galvin's factory, and when they perfected their first radio, they installed it in his Studebaker. Then Galvin went to a local banker to apply for a loan. Thinking it might sweeten the deal, he had his men install a radio in the banker's Packard.

Good idea, but it didn't work ❖ Half an hour after the installation, the banker's Packard caught on fire. (They didn't get the loan.)

Galvin didn't give up. He drove his Studebaker nearly 800 miles to Atlantic City to show off the radio at the 1930 Radio Manufacturers Association convention.

Too broke to afford a booth, he parked the car outside the convention hall and cranked up the radio so that passing conventioners could hear it.

That idea worked -- He got enough orders to put the radio into production.

WHAT'S IN A NAME

That first production model was called the 5T71.

Galvin decided he needed to come up with something a little catchier. In those days many companies in the phonograph and radio businesses used the suffix "ola" for their names - Radiola, Columbiola, and Victrola were three of the biggest.

Galvin decided to do the same thing, and since his radio was intended for use in a motor vehicle, he decided to call it the Motorola.

Fresno Amateur Radio Club

But even with the name change, the radio still had problems: When Motorola went on sale in 1930, it cost about \$110 uninstalled, at a time when you could buy a brand-new car for \$650, and the country was sliding into the Great Depression. (By that measure, a radio for a new car would cost about \$3,000 today.)

In 1930, it took two men several days to put in a car radio --The dashboard had to be taken apart so that the receiver and a single speaker could be installed, and the ceiling had to be cut open to install the antenna.

These early radios ran on their own batteries, not on the car battery, so holes had to be cut into the floorboard to accommodate them.

The installation manual had eight complete diagrams and 28 pages of instructions. Selling complicated car radios that cost 20 percent of the price of a brand-new car wouldn't have been easy in the best of times, let alone during the Great Depression ♦

Galvin lost money in 1930 and struggled for a couple of years after that. But things picked up in 1933 when Ford began offering Motorola's pre-installed at the factory.

In 1934 they got another boost when Galvin struck a deal with B.F. Goodrich tire company to sell and install them in its chain of tire stores.

By then the price of the radio, with installation included, had dropped to \$55. The Motorola car radio was off and running. (The name of the company would be officially changed from Galvin Manufacturing to "Motorola" in 1947.)

In the meantime, Galvin continued to develop new uses for car radios. In 1936, the same year that it introduced push-button tuning, it also introduced the Motorola Police Cruiser, a standard car radio that was factory preset to a single frequency to pick up police broadcasts.

In 1940 he developed the first handheld two-way radio -- The Handy-Talkie ♦ for the U. S. Army.

A lot of the communications technologies that we take for granted today were born in Motorola labs in the years that followed World War II. In 1947 they came out with the first television for under \$200.

In 1956 the company introduced the world's first pager; in 1969 came the radio and television equipment that was used to televise Neil Armstrong's first steps on the Moon.

In 1973 it invented the world's first handheld cellular phone. Today Motorola is one of the largest cell phone manufacturers in the world.

And it all started with the car radio.

WHATEVER HAPPENED TO the two men who installed the first radio in Paul Galvin's car?

Elmer Wavering and William Lear, ended up taking very different paths in life.

Wavering stayed with Motorola. In the 1950's he helped change the automobile experience again when he developed the first automotive alternator, replacing inefficient and unreliable generators. The invention led to such luxuries as power windows, power seats, and, eventually, air-conditioning.

Lear also continued inventing. He holds more than 150 patents. Remember eight-track tape players? Lear invented that. But what he's really famous for are his contributions to the field of aviation. He invented radio direction finders for planes, aided in the invention of the autopilot, designed the first fully automatic aircraft landing system, and in 1963 introduced his most famous invention of all, the Lear Jet, the world's first mass-produced, affordable business jet.

(Not bad for a guy who dropped out of school after the eighth grade.)

Armed Forces Day

Crossband Military/Amateur Radio Communications Test is May 13.

The US Army, Air Force, Navy, and Coast Guard will sponsor the traditional military/amateur radio communication tests on Saturday, May 13, to mark the 66th annual Armed Forces Day (AFD). Armed Forces Day is May 20, but the AFD Crossband Military-Amateur Radio event will take place a week earlier in order to avoid schedule conflicts with those attending Hamvention.

Complete information, including military stations, modes, and frequencies, is available on the US Army MARS website at, <http://www.usarmymars.org/home/announcements>.

The annual celebration is a unique opportunity to test two-way communication between radio amateurs and military stations (authorized under Part 97.111 of the Amateur Service rules). It features traditional military-to-amateur crossband SSB voice, CW, practice using legacy interoperability waveforms, and the opportunity for participating hams to utilize more modern military modes, such as MIL-STD Serial PSK and Automatic Link Establishment (ALE). Military stations and Amateur Radio stations are authorized to communicate directly on certain 60-meter interoperability channels - 5,330.5, 5346.5, and 5,371.5 kHz.

These tests give Amateur Radio operators and shortwave listeners a chance and a challenge to demonstrate individual technical skills and to receive recognition from the appropriate military radio station. QSL cards will be available for stations successfully contacting participating military stations.

The Armed Forces Day message will be transmitted via Military Standard radioteletype modes (MIL-STD 188-110A/B). Software is available to demodulate the military serial PSK waveform, and detailed instructions can be downloaded from, http://www.n2ckh.com/MARS_ALE_FORUM/MSDMT.html. Utilizing this mode with soundcard equipment can be challenging; review the instructions carefully.

A short practice transmission will be sent at 1930 and 2330 on May 6, 7, 10, and 12 on 13.506.5 MHz USB and 17.443.0 MHz USB.

Military FSK is Baudot at 850 Hz, 75 baud, low mark, and 2000 Hz center. Most RTTY programs can be set to decode this mode. To achieve low mark while receiving in USB, select reverse shift.

QSL cards are available for individuals that receive the Armed Forces Day test message. To receive a card, copy the printed text of the test message as received from the military station, and include it in your report. No attempt should be made to correct possible errors. Stations copying Armed Forces Day messages transmitted from US Army and US Navy stations and requesting a QSL card, can complete the QSL report form online at, <http://www.usarmymars.org/>. Stations copying the Armed Forces Day message transmitted from US Air Force stations and seeking a QSL card should send a request to Armed Forces Day Celebration, Chief, Air Force MARS, 203 W. Losey St, Scott AFB, IL 62225.

Include a transcript of the received text, time observed, frequency observed, military station call sign, your full name and Amateur Radio call sign (if applicable), full mailing address (including ZIP code).

Stations with Automatic Link Establishment (ALE) capability can contact a military station on specific half duplex crossband channels established for this purpose. ALE is a selective calling and linking method utilized by government, military, and amateur radio communications. Military stations will scan and receive certain amateur HFLINK ALE frequencies and transmit on the corresponding military ALE frequency. Military stations will also transmit ALE station identification (soundings) on each military frequency at 30- to 90-minute intervals. Amateur stations may scan military frequencies and monitor the soundings to build the LQA database or select the channel manually. Amateur stations will call military stations using ALE selective calling on one of the paired cross band channels.

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**Fresno Amateur Radio Club
Activities and Events**

Meetings on the 2nd Friday of the month

FD on the 4th full weekend in June

Banquet Dinner in December

Club Picnic in summer

Annual swap meet in November

Fresno Amateur Radio Club - Membership Application	
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Home Phone _____	Cell Phone _____
Occupation _____	Birthdate _____
License Class _____	Year 1 st Licensed _____
ARRL Member? _____	
E-mail address _____	Anniversary Date _____
Additional Family Member in same household:	
Spouse Name _____	Call Sign _____
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