



Fresno Amateur Radio Club Newsletter

MAY 2009 Volume 70, Issue 5

Our next meeting will be May 8th. At 7:00 and will be about Log Book of the World by Charles McConnell. This will be a very interesting topic on how to collect QSL credits without sending or receiving expensive QSL cards. Meeting place: Cedar Lanes Bowl—Cedar & Shields Aves.



The Prez Sez

FARC General Meetings

Are held the 2nd Friday of each month, 7 p.m. at Cedar Lanes unless otherwise noted.

2009 FARC BOARD MEETING DATES

1st Tuesday of each month
Woodward Park Library at
Champlain and Perrin.

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

CQ CQ

I want to thank Craig K6QI for volunteering to be the Hamfest Chairman on Oct 17, 2009. He will be calling on our members to help out, so when you get that call please say "Yes". This is our first fall Hamfest in a long time so let's make it a great one. We will be raffling off a YAESU FT-857D Ultra-Compact HF/VHF/UHF 100 W All-Mode Transceiver and have a group of interesting speakers lined up. Be sure and get this event on your calendar.



Our summer picnic is just around the corner, it will be held at Ken's and Gwynne's home in August. We will have the date for you at the next general meeting. Great food, Ken's Barrel Cooked Tri-tip, pot luck dishes provided by the members and Bingo. Hope to see you all there.

Field Day is June 27-28, with set up on June 26. Ken WA6OIB is the chair for this event. Please get ready to sign up as an operator, there will be a time slot to fit your needs. There is a total of 24 hours he needs to cover from Code to Voice, along with special areas of communication.

(Continued on page 14)

2008 FARC BOARD OF DIRECTORS

FARC Officers:

Tom Jarvis, Pres. - KG6KYU	kg6kyu@w6to.com	(559) 916-2445	12/2009
Ken Holden, V.P. - WA6OIB	wa6oib@w6to.com	(559) 323-6753	12/2010
Jim Erbe, Sectry - WA6NIF	wa6nif@w6to.com	(559) 222-7524	12/2009
Ron Hunt, Treas - N6MTS	n6mts@w6to.com	(559) 289-8514	12/2010

Board Members:

Aaron Lusk: K6USY	k6usy@w6to.com	(559) 301-1022	12/2010
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Steve Brunt: K6AAB	k6aab@w6to.com	(559) 696-4319	12/2009
Chuck McConnell: W6DPD	w6dpd@w6to.com	(559) 431-2038	12/2010
Jack Baker: AC6LT	ac6lt@cvip.net	(559) 297-4311	12/2010
Joseph Capell: W0PJD	jtcapell@me.com	(559) 225-3582	12/2009

Mark you calendars for every Thursday, for the lunch gathering at the *Silver Dollar Hofbrau* at the corner of Hwy 41 and Shaw. It starts at 12 noon and there is a table reserved in the back room.

Also every Monday and Saturday at the *Country Waffles* at Blackstone and Dakota starting at 7am.

Lastly, Breakfast every Tuesday at *Yosemite Falls Cafe* at Blackstone and Shaw starting at 8am.

Thomas L. Whitlock



W H I T C O M M

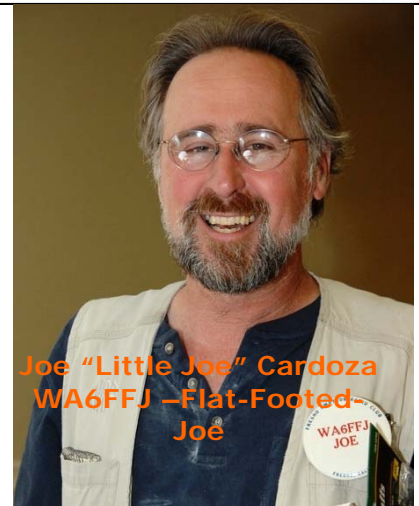
E L E C T R O N I C S

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Amateur Radio Event Calendar

<u>Date</u>	<u>Event</u>
May 1	CARP Meeting (Clovis Senior Center)
May 2	Turlock Auction (map on page 12)
May 1-2	EMCOMM West & Pacificon Convention (Reno, NV)
May 6	FARC BOD Meeting (cancelled)
May 8	FARC Club Meeting (Cedar Lanes)
May 9	FISTS Spring Sprint
May 13-14	ARRL June VHF QSO Party
May 15	EnComm Breakfast (Yosemite Falls Café)
May 15	SJVARS (Pelco)
May 16	FARC Exam Session (see page 15)
May 15-17	Dayton Hamvention
May 29-30	CQ WW WPX Contest
May 26	QCWA Lunch –Carrows – 4820 N. Blackstone
June 5	CARP Meeting (Clovis Senior Center)
June 12	FARC Club Meeting
June 19	SJVARS Club Meeting



Joe "Little Joe" Cardoza
WA6FFJ –Flat-Footed
Joe

Thanks to Richard Pack, KE6SHL, for providing many of the photographs included in SKIP. Ed.

EDITOR'S COMMENTS by Dave Smith W6TE

Dear FARC Friends,

It's been a busy month for my family as well as for Amateur Radio in the valley. I last reported that we were rushing out the door for a special trip to New York City to hear our two daughters and the Pacific University Wind Ensemble play a concert at Cargnie Hall. Well, it was as fabulous as any proud father could have imagined! We spent seven days touring NYC and then took a train down to Washington DC for another five days. If you've never been to either place, well, it's just as wonderful as everyone says it is.

The FARC Technician Class is currently in progress at Peoples Church. What a great group of students! I visited last Tuesday evening to see if I could lend a hand. The three class leaders Ken Holden, WA6OIB, Joe Capell, WOPJD and Dan Pruitt, AE6SX are doing a fantastic job training the new class of Technician Amateurs. The club and Amateur Radio owe these three a big thank you for your time and dedication!

I attended the 60th anniversary of the Visalia International DX Convention the weekend of April 17th.-19th. The convention was packed as usual bringing in DX'ers from all around the World. The attendance was around 800 or so.... no sign of a recession here. The presentation I was the most



impressed with was given by Martti Laine, OH2BH, and Juha Hulkko, OH8NC. Martti is driven to not let our hobby die. Getting younger people involved is a must. Martti's view of the problem is to go and play where the younger people play, on the internet, and more precisely on 2ndSpace. Martti and his group

have developed a project called "[Radio Arcala](#)" ... basically, they have built three huge contest stations in Europe, one in Finland (within the Arctic circle), one in the Azores (Atlantic Ocean off the coast of Portugal) and one in Turkey (the Turkish Rivera). There were photos off all three stations

(Continued on page 14)



Please support our advertisers in SKIP. They support us not only in revenue for the club but they also allow us space on the counters and shelves for copies of SKIP and other club announcements. This is important. Just this month we added a new student to the class who picking up a copy of SKIP and saw the class announcement. This person may well get his ham ticket and become a member of the club at some point.

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Membership Attendance for April—No Winner

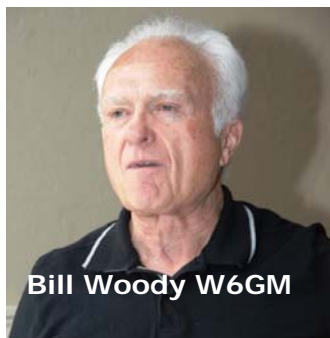
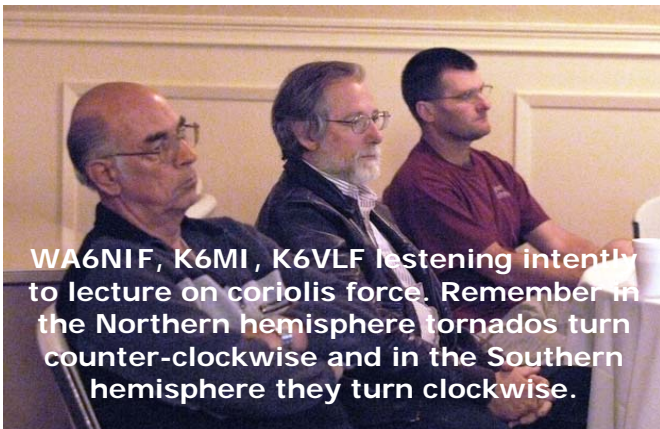


Local Amateur Radio Repeaters

<u>Organization</u>	<u>Call Sign</u>	<u>Frequency</u>	<u>Offset</u>	<u>PL</u>
AARC	WB6QDN	146.610	-	NONE
CARP	K6ARP	147.675	-	141.3
CARP	N6JXL	224.380	-	141.3
CARP	K6ARP	444.725	-	141.3
CONDOR	WB6BRU	224.900	-	156.7
FARC	W6TO	146.940	-	NONE
FARC	W6TO	223.940	-	NONE
FARC	W6TO	444.200	-	NONE
FRESNO	N6MTS	145.230	-	141.3
KINGS ARC	KA6Q	145.110	-	100.0
MADERA ARC	W6WGZ	147.180	+	NONE
MADERA ARC	W6WGZ	441.175	-	146.2
QCWA	WQ6CWA	146.850	-	141.3
RACES	N6HEW	147.150	+	141.3
TURLOCK ARC	W6BXN	147.030	+	100.0
WA6NIF	WA6NIF	444.100	+	100.0
WIN/SYSTEM	K6JSI	147.790	-	141.3
WIN/SYSTEM	K6JSI	223.780	-	141.3
KJ6KO	KJ6KO	927.6625/902.0125	-	146.2

Birthdays, Anniversary's and Announcements

Dan Pruitt, AE5SX B-Day	5/17	Ron Hunt, N6MTS	5/21
Kathy Smith XYL W6TE	5/4	Rodney Benson, WB6QDN	5/27
Terry & Kathy Horak KF6LXB Anniv.	5/5	Carole & Jan Whitterberry W6TTF&WA6WTF	5/19



"Echoes of Apollo" by Pat Barthelow AA6EG and Dave Smith W6TE

The United States space agency NASA achieved the first manned landing on Earth's Moon as part of the Apollo 11 mission commanded by Neil Armstrong. On July 20, 1969, Armstrong landed the lunar module *Eagle* on the surface of the Moon with a companion, while the third astronaut orbited above. Armstrong was the first human to set foot on the moon, with Buzz Aldrin being the second. Armstrong and Aldrin spent a day on the surface of the Moon before returning to Earth. NASA carried out six manned moon landings between 1969 and 1972.

2009 is the 40th anniversary of the first manned landing on the moon. An event called "Echoes of Apollo" is being planned to recognize and celebrate this historic event.

"Echoes of Apollo" (EOA) began with Pat Barthelow, AA6EG, connecting with some of the original Australian players in the July 20th 1969 Moon landing event. Here's Pat's story of how this event evolved.

"After meeting some Australians on the web, members of the [Overseas Telecommunications Veteran's Association](#) (OTVA), I became interested in hearing the Aussie's 1st hand experiences in the Apollo program of the late 60s and 70s, as telecommunications, and science professionals."

"I had only recently watched "The Dish" a popular Australian produced movie, *very* loosely based on the Apollo 11 mission and one of two Aussie earth stations (Parkes and Honeysuckle Creek) that kept the link to the moon, and were key players in the live worldwide broadcasts of Neil Armstrong's walk on the Moon."

"If you want a first hand account of the story get the paper by the current Parkes Director, John Sarkissian "[On Eagle's Wings](#)" ."

"My discussions about the Apollo program, with the Aussies, folks that were there, spawned the idea of Earth-Moon-Earth (EME) communications as part of their planned celebrations, a sort of "revisit" to the Moon with RF. So, for the last several months my counterpart, Robert Brand, in Australia, and a growing, talented team, and I, have been planning and preparing for "The

World's Biggest Space Party", as described by my mates, down under."

"A critical satellite link out of Australia during the Apollo missions, was via a Geosynchronous Intelsat, with the first ground station hops going to Jamesburg Earth Station, near Monterey California. See CQ-VHF article, Spring issue, 2007, carried on the [Jamesburg](#) website for details."

"The Jamesburg experience, called my attention to, and realization of quite a few large dishes, lying dormant around the world, some of which had been discovered" by hams and are being groomed for EME. This continues to happen, and, in addition to the many incredible self built ham EME stations in the 10 meter diameter and above class, enabling Voice EME communications to become more common. That is what we are shooting for—Voice EME QSOs Worldwide in addition to other modes, CW, JT 65, etc. We want everybody to have fun."

"A fundamental goal of [Echoes of Apollo](#), is to make this EME event visible to the public, wherever possible, and do science outreach activities for the middle school set that are fortunate enough to be able to witness ham EME at home stations, and some of the big dish stations we have committed. I feel that EME operating can be quite interesting to a non-ham observer, a middle school student mulling over a science track career. More so than the same young person watching over my long time favorite, DX HF CW operating. So, we encourage maximizing exposure opportunities, including a sophisticated Website, with live audio and video web feeds planned from equipped, participating stations."

"In Australia, we have several EME players, many of whom have 10 meter and larger dishes, and even recruited for EME receive only duty, the [University of Tasmania, Mt Pleasant 26 meter dish near Hobart, Tasmania.](#)"



"Echoes of Apollo" by Pat Barthelow AA6EG and Dave Smith W6TE

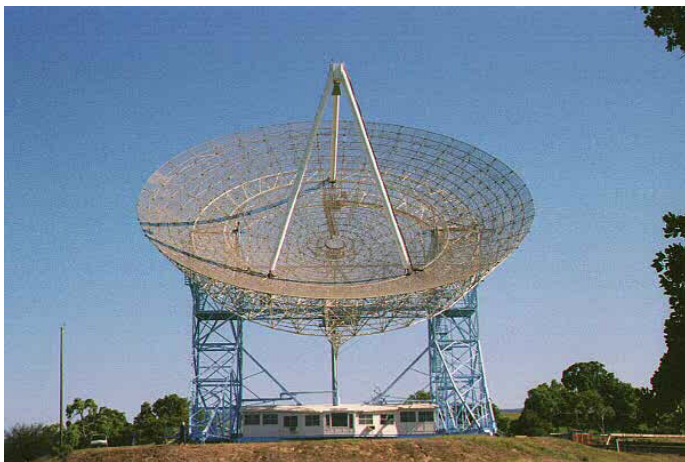
Mt Pleasant made the cover of the CQ-VHF May issue and therein is the "Echoes of Apollo" story.

"The dishes that will be on the air for EOP are: [Dwingeloo](#) 25 m dish in Holland, [Morehead State U Space Sciences center](#) 21 meter dish, [Pisgah Astronomical Research Institute](#), PARI, site in N Carolina, 26-meter dish; and the [Deep Space Exploration Society](#) 20-meter dish."

"My most recent hands-on focus has been with my ham radio EME colleague, Dave Smith, W6TE, who was there at Jamesburg in the earliest days. Dave and I visited Stanford's [Big Dish](#) operated by [Stanford Research International](#) (SRI) 150 ft dish two weeks ago to get to the nuts and bolts of building the 23 cm high power EME station there."

This journey with Pat has been incredible! I sat on the sidelines for a few months watching Pat and the Australians go back and forth in their planning. All of a sudden everything seemed to come together.

Two weeks ago Pat and I gave an "Echoes of Apollo" presentation to the Stanford dish's SRI management team... they must have been favorably impressed with the project! We were given authorization to use the dish for the June 27th EOA



event.

I've got a little less than two months to build a 23CM EME station. It's not quite as bad as it sounds, I've already got most of the components. We'll be using a 1980's vintage, 1296 water-cooled

300 watt, amplifier that I acquired 15 years ago to use for EME. Low and behold, that's actually what I'll be using it for! Larry, WA6LUT, and I started checking it out this week and it looks like it's going to come up to power. I say looks like because I sold all of my high power Bird slugs and have had purchase new elements. They haven't arrived yet. Power output at this point is an estimate.



23 Cm, 300 watt amplifier

Using the estimated 300 watts output from the amplifier, I've made some ERP calculations using the published 52 dBW gain of the dish at 1296 MHz. Using 300 watts, the calculated ERP will be approximately 50,000,000 watts! (Don't stand in front of the dish while transmitting!)

At "L" band, 1296 MHz., the dish has a beam-width of .3 degrees! The moon (averaged between perigee and apogee) has a diameter of .5 degrees... so.... We will not only be able to point at the moon but point the dish at any point on the



Big Dish's computer console

moon! The way this this is accomplished is by using the left-right and horizontal-vertical keys on the computer's keyboard to fine tune the dish.

Tracking the moon poses somewhat of a problem (although the SRI Engineering team didn't think so. They must have worked this problem out

"Echoes of Apollo" by Pat Barthelow AA6EG and Dave Smith W6TE

before). The moon doesn't orbit the earth in predictable ways the way other satellites do. The mass of the Moon and Earth act upon each other causing perturbations and an unpredictable orbit.

Although most tracking programs we use on our ham computers will track the moon OK they won't track to the 1/2 degree precision that is required with the Big Dish.

One of the bigger challenges has been obtaining a feed horn that can be used with the dish. SRI management has said that we could use their "L" band feed horn if it was useable at our chosen frequency. They are in the process of sweeping the feed to see if it will work at 1296 MHz. If we use the SRI feed we'll need to overcome it's linear ports; vertical and horizontal. What we need is a feed horn that produces circular polarization. To solve this we can use a 90 degree hybrid combiner to feed each port. This will produce the circular polarization that is needed. We'll also need to reverse the hybrid combiner's ports to the feed to switch between transmit and receive; (right hand circular polarization to transmit and left hand to receive.)

We have a couple of other options when it comes to feed horns.... Each option has it's own set of problems that need to be worked through. One of the options is to purchase a septum feed made by Rasto, OM2AA, of the Chez Republic. This "septum" feed provides both left hand and right hand circular polarization within the feed. Rasto's feed is shown below.



The last feed option is to use a feed owned by the Stanford Radio Club, W6YX. The club has offered to let us borrow it. This feed may also need some modification to be used with the Big Dish. In any event we'll need to rely on the expertise of the SRI Engineering team to help us decide which is the best way to go.

It only take a couple of hours to change the feed horn on the Big Dish. The dish can be lowered all

the way to the ground as shown in the picture.



Also seen in this photo are the two 1-5/8" feed lines, one for transmit and one for receive.



The receive line will be used to bring down the signal from the 23 Cm filter and Low Noise Amplifier (LNA).

The day of operation is June 27th, the day before Field Day weekend. Many of the sites plan to stream video and audio over the internet. I will have the URL that we will be using at Stanford. Next month I'll give additional information about scheduling, as well as eme and mode L equipped satellite stations working us and the other dishes Worldwide.

Be sure to check out Pat's EOA article in this months CQ-VHF .

73, Dave / W6TE

"LIFE IS TOO SHORT FOR QRP!"

THE DX CORNER by Charles McConnell W6DPD

The local DX'ers meet on the first Saturday of the month for breakfast at Carrow's, 4280 N. Blackstone in Fresno. The group gathers between 0700 and 0800. All are welcome.



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 \$0.70 for each envelope to the address above. They will put 1 unit of First Class postage on the envelope.

Postage rates around the world are constantly changing. To see current rates go to http://www.qsl.net/w9ol/IRC_Chart.htm where you can find the current postal rates for most of the countries of the world. Effective May 12, 2009, US overseas airmail is 98¢ per ounce and postage to Canada is 75¢ per ounce and Mexico is 79¢ per ounce. IRC purchases are \$2.10 each.

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, Perry K6XJ 299-2802, or Jim WS6X 292-8353 can give you advice. The big thing about finding DX is to tune the bands. Check out the Central California DX Club Web page at www.ccdxc.org.

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 OP DX Bulletin on the web. Search OP 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.

The following operations are scheduled: Marshall Islands V73NS now through 2009 and maybe 2 more years

Current Operations:

Martinique FM/F5IRO Now through February 2009
Wake Island KH9/WA2YUN now until end of 2009
Bhutan A52VE April 2007 for 2 years
Djibouti J2800 soon for at least a year
Uganda 5X4X Now to June 2009
Glorioso FR/G hopefully sometime in 2009
Crozet FT5WO Dec. 15, 2008 to Nov. 2009
Central African Republic TLOA, after Jan. 1, 2009
Macedonia Z30MCWG Feb. 20 to Dec. 31, 2009.
Nigeria 5N/KT3Q March 5 to July 24, 2009
Cayman Islands ZF2ZB April 21 to May 6, 2009
Ogasawara JD1 April 29 to May 12, 2009
Bahamas C6AMS June 1 to June 14, 2009
Fernando de Noronha PYOF June 10 - 15, 2009
Sao Tome S9LX June 13 to June 27, 2009
Swaziland 3DA0SS July 31 to August 11, 2009
Curacao PJ2/PA1FJ Sept. 24 to Oct. 7, 2009
Midway K4M October 9 to October 19, 2009
Sable Island CY0 October 19 to October 26, 2009
Spratly Islands sometime in 2009
Tokelau ZK3 April 2010
San Andres Island 5JOM June 17 to June 28, 2009 primarily 6 M
Central Kiribati T31 End of September 2010
Conway Reef 3D2C End of September 2011
Juan Fernandez XR0ZN November 24 to December 3, 2009

Watch the DX Bulletins for up to date information. As the time for the operation is at hand, watch the DX Summit 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. Good luck, tune the dial, and listen.

The mechanical consequences and effects of guying a tower is discussed in a [presentation](#) posted on the Yankee Clipper Contest Club Web site. It covers elevated guy anchors, star guying, and more. (Thanks, Roger K8RI)

"Never Saddle A Dead Horse" helps to remember how to attach guy clamps. Which piece of the clamp is the saddle? and Why should the saddle be on the live guy wire? If you hold a clamp with the U-bolt part down, it looks a bit like a saddle cinch strap and the sliding part looks a bit like a saddle. Steve K7LXC confirms that the saddle part of the clamp has much better holding power than the U-bolt. Saddling that dead horse causes the clamp to lose about 40% of its holding force!

AMATEUR OF THE MONTH, Dave Smith W6TE, by Joe Capell, WOPJD

This month our ham bio is about Dave Smith, W6TE, our Skip Editor.

Dave was born in the LA area but came to the San Joaquin Valley at the age of 2 to a farm in Fowler. The Family moved again to Fresno when he was 7. He attended Roosevelt High School then graduated from Fresno State College (as it was then known) with a degree in industrial technology.

His first ham radio call was WV6YDI and WA6YDI in 1962. The Novice and Technician licenses arrived on the same day in the mail. He also passed the First Class Radiotelephone commercial license which allowed him to work at various radio and television facilities in the area including KEAP, KYNO, KXEX, KFIG, KIRV, KGST and KJEO-TV. He then worked for the city of Fresno as a stagehand and stage manager for the downtown convention center.

His passion for flying drew him to receive his Flight Instructor ratings in the early 1970's and an Airline Transport Pilot's rating in 1977.

He was an owner of Valley Scientific, repairing medical equipment for a while as well as another company that repaired and maintained automotive diagnostic analyzers.

His most recent occupation for 18 years and the one from which he retired just a few years ago was for the Pacific Gas and Electric Company in the engineering group setting up and maintaining microwave and fiber optic communication systems throughout the state, and if that weren't enough, at the same time, teaching Computer Technology at Fresno City College at night.

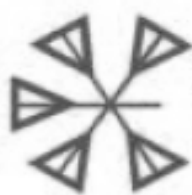
Because of his interest in earth-moon-earth (EME) communication, he changed his call to W6TE (a call with almost the least possible dots and dashes). He has been involved in many if not most aspects of the hobby including DX, computers, Satellite work and radio licensing classes.

He was instrumental in setting up the extensive ham radio station on top of the Fresno State Industrial Technology building which included two EME antennas, HF, VHF and microwave facilities.



Looking back, he finds two individuals as most influential in his electronics career and hobby, Fred Bertrand, W6QOS and Roy Tuck, the Radio Shop and Stagecraft teacher at Roosevelt High School in Fresno who a number of us found a great inspiration in those days.

Dave tells me that he enjoys all aspects of amateur radio. It is a mix of knowledge, science, personalities, new ideas, adventures, meeting new people all over the world and especially teaching and inspiring new people about this wonderful hobby.



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FARC ENCOMM by Dan Pruitt AE6SX

I want to start off by saying thank you to Rob Mavis, AE6GE, President of the Clovis Amateur Pioneers for making the Annual March-of-Dimes Walk-a-thon a very pleasurable event. Although the event was smaller this year I enjoyed my regular duties of monitoring a very pleasant group of people strolling through Woodward Park. I was teamed with a group of Raiders Fans who



Dan Pruitt AE6SX

James, KI6IHB. He is an IT guy for a local company with ties in that area and went looking for answers. Contacting the ARES EC in the problem area, he brought very current info to the table. He is just returned to us after some aggressive medical issues. Welcome back James!

The session was well attended with people from CARP, SJVARS, FARC and RACES, ARES, SATERN with both Clovis and Fresno CERT. Now this was an impromptu gathering, however the result was to generate individual responses, compare and distill a county response, looking toward a regional one. I'm looking forward to the resolution of this, next month.

Last month's ARES/RACES meeting was concerned with traffic handling, NTS and specifically Field Day Traffic. I wanted to ensure that all the clubs in our area, could receive the bonus points for the message to SM or SEC. We will follow up this month.

Have you have missed out on Field Day because of time or distance, or if it has just been awhile?

Sign up, hop a bus, and operate downtown at SATERN! Captain Dwaine Braezeale, KG6SYA and SATERN will sponsor either a F1 or F2, EOC Field Day at the Salvation Army. This is a drill to identify capabilities and problems for their EOC. Collaboration with ARES/RACES is a natural here. Most equipment is on hand. We will be working out the Antenna plan and figuring out how to create some isolation between the stations. We could use some help in this department. We will even have a special event call!

Last but not least, Navy MARS will be making a

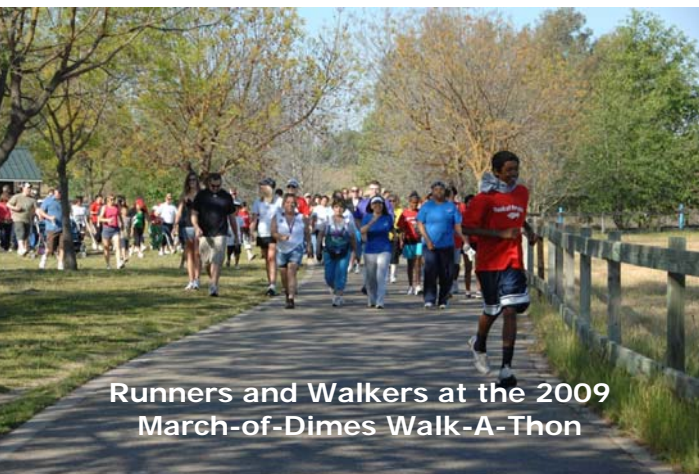
(Continued on page 13)

took their mission of hydrating the walkers seriously, generously including quartered oranges as a respite from the bottled water. I had no trouble enjoying the weather and fine company even though I am 49er faithful, hi hi. The



Rob Mavis AA6GE

ARES/RACES teamed up with CARP to herd in the over zealous walkers that continued well beyond the course limits. Calling in support from the Volunteer, off duty, Search and Rescue Team (SAR). Mounted on Cushman carts, they ferried back those that ran out of steam. Comms showed importance, again. All in all fun stuff, and I am looking forward to doing it again next year.



Runners and Walkers at the 2009 March-of-Dimes Walk-A-Thon

EMCOMM & COFFEE had an excellent session this month. The Santa Cruz fiber optic cable sabotage was heavily discussed, thanks to input from



Two diligent volunteers setting up comm Antennas.

In Praise of PowerPole Connectors By Paul Wade, W1GHZ

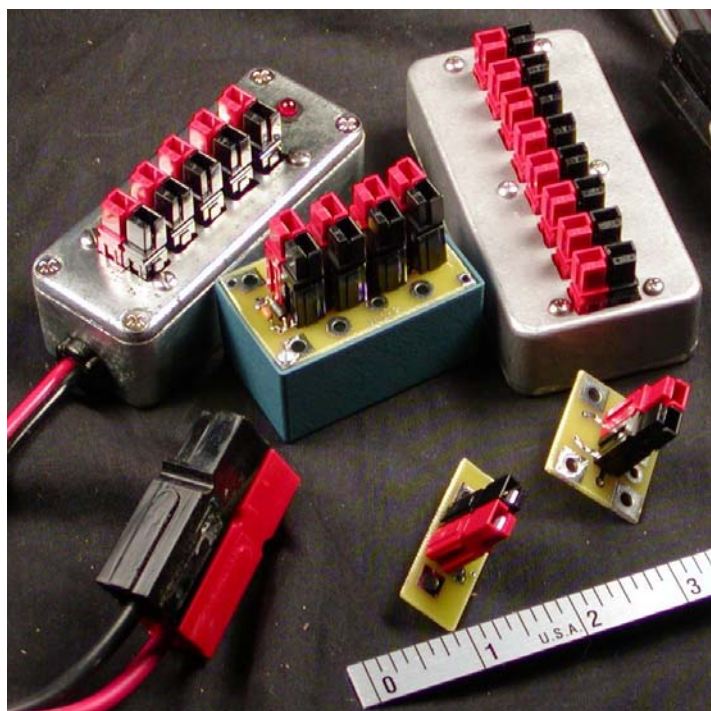
With summer approaching, many of us will be going out roving or mountain-topping with our radios. From painful experience, 75% of the problems in the field are power problems—just getting 12 volts to the electronics. (Don't ask what the other 25% of the problems are...)

One thing that helps a lot with power is good, reliable, connectors. I started out with CB connectors and little coaxial power connectors like the ones on some Japanese radios, then the 10 GHz gang migrated me to Cinch-Jones connectors. Others used the Molex connectors from Radio Shark. These all had common properties: they are flaky, unreliable, come apart with a pull on the cable, and can be plugged in backwards. Eventually, we discovered Anderson [PowerPole](#) connectors—robust, reliable, and almost foolproof, even in the dark, wet and cold.

The PowerPole connectors are great on cables, but the other end was still a problem—I don't like pig-tails hanging off my gear. Matt, KB1VC, and I made a couple of chassis mounts with a milling machine, but they took too much work. Distribution was another problem, with tangled octopus cables connecting all the gear. Then the "RigRunner" from [West Mountain Radio](#) came out and solved the distribution problem. Unfortunately, they followed ARES standard for connections which was the opposite of what we had chosen. However, it only takes a minute to reverse the connectors, unless they were glued together.

The RigRunner also showed me how to make the chassis mount—solder the PowerPole to a PC board and bolt that to the panel. I had some extra space on PC board design I was sending off to be made at [ExpressPCB](#), so I added a couple of PowerPole mounts. They worked so well I got carried away and made more boards for small distribution boxes. Figure 1 is a photo with several sizes suitable for a rover or mobile setup. Assemble is simple: take some #10 bare copper wire (from household wiring), solder it to the PowerPole contacts, assemble the connector, push the other end of the wires through the board so the plastic housing sits flush, and solder to the board. Use a real soldering iron.

The soldering isn't much work, but the metalwork is tedious—I don't have a square drill, so the rectangular holes take a lot of filing. Now that West Mountain Radio is offering 5 and 8 outlet RigRunners, I'd recommend them unless you really need tiny like the one in the Pomona box in Figure 2. If you prefer homebrew, the PCB files are on my webpage at www.w1ghz.org/powerpole-- download the software from www.expresspcb.com and you can modify them any way you like. Cut and paste the patterns together to fill up the board outline, then send the file off to ExpressPCB and you'll get 3 boards back in 4 days, for \$62.



There are bigger PowerPole connectors available as well if you need more power, although the 30-amp rating of the standard ones should be adequate for most ham use. A good source for the larger ones is www.powerwerx.com

So, if you aren't already using PowerPoles, I recommend them. You'll not only be compatible, you'll be on the air at full power.

VISIT FARC'S WEBSITE AT WWW.W6TO.COM

NEWS AND GENERAL INTEREST (from ARRL Contest Update)

Bob N6TV has posted a very nice collection of [photos from the International DX Convention in Visalia](#) (April 17-19) on the Picasa Web site. You'll see a lot of familiar call signs from around the world!

The Northern California Contest Club sponsored a Contest Academy on April 17th, the first day of the Visalia convention. It was well-attended and the students came away happy as you can see in this [photo album by Rob K6RB](#). These events are catching on! (Thanks, Steve K6AW)

Perhaps this is where the Rover of the Future is headed? Wearable sensors and user interface devices work together for truly mobile personal computing in this video from the TED site as Media Lab researcher Patti Meas demos her "[Sixth Sense](#)". (Thanks, Jim WØFF)

Hmmm...there seems to be some Morse code in this [video](#)...what could it be? What does the cat want? Is it sending Morris Code?

Bill AA4XT thought contesters might enjoy these pictures of the [construction of his 'Big Bertha' tower](#) from a few years ago. Uh, yeah, although now I feel strangely inadequate. (Thanks also, Scott KA9FOX)

RESULTS AND RECORDS

Here's an exceptional record -- the 2008 CQWW contests had [over 10,000 logs submitted for the first time](#) ever! Aside from Field Day, which as we all know is not a contest, this is the largest ham radio contest of all time. Sunspots? We don't need no steinking sunspots! (Thanks, Mike K9NW)

And one more record - turning 35 years old on November 15, 2009 AO-7 (a.k.a "OSCAR 7") still carries lots of amateur satellite traffic after spontaneously reanimating itself some months ago. Joe, K3SZH says Igor UA9CS has now logged over 6000 QSOs via the ancient bird. (From the AMSAT ANS-109 bulleting, ANS thanks Tim, N3TL and Joe, K3SZH for the above information.)

OPERATING TIP

County abbreviations are your multipliers in state and regional QSO parties, so be sure to use the right ones. Don't make up your own abbreviations because the log checkers (or the log checker's software) might not recognize them in your log. The contest sponsors almost always publish a list of their recommended abbreviations on the contest Web site - download that list and print it out for easy reference.

Would you like to see the source of that big signal heard on the low bands from the recent VK9GMW DXpedition? George AA7JV kindly posted "[The VK9GMW Spider-Pole Antenna](#)" - an article describing their design and how to use it on land. (Although it would be more fun to use it from the location pictured on the first page of the article.)

A must have for any balun-winder or EMI-unwinder is the [Fair-Rite Products Corp catalog](#). Linked at the top of the page, under the 'Technical' tab are two excellent papers on using ferrite materials for EMI suppression and broadband transformers. The catalog has a lot of great information on ferrites, along with complete information on all their cores and beads.

IEEE Communications Magazine for March 2009 featured the article "Cognitive Radio as a Mechanism to Manage Front-End Linearity and Dynamic Range" by Preston Marshall. The process involves the selection of filtering (preselectors) and antenna beam-forming to reduce receiver input energy and transmitter power requirements. This is termed "Dynamic Spectrum Allocation" which is just what hams have been doing since the days of Marconi. As the most frequency-agile service, the techniques developed by hams should be fertile ground for SDR and cognitive radio researchers.

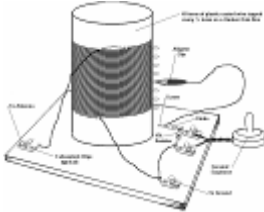
Three great ham-friendly projects appeared on the Instructables Web site this week. First up is a set of instructions on [sharpening your drill bits](#) using a drill sharpening guide. This always seems like such a good idea, but doing it right is not trivial. Then, for very little expense, a multiple-output bench power supply can be yours by [converting an ATX power supply](#) from an old PC. Finally, who could resist an article about making things out of those metal [Altoid project-boxes](#), er, candy tins?

(Continued on page 14)

An Elmer Session before the May 8th meeting, 6:30 PM.

GOT QUESTIONS?

Bring them to the Elmer Session. There will be Hams there set up to help with the Hobby! Want to use "Ladder Line" instead of coax, someone can explain the differences.

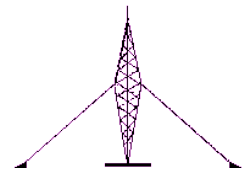


This a great time to casually mull over all those little puzzles that develop as you grow in Ham radio. Everything from SWR Bridges, current meters, test equipment and techniques. New equipment is always a mystery. Find out how to change your modulation to suite yourself. Find other people working in the same modes as you do. Catch up on some new contest rules.



What someone else needs know, you can help! Volunteer as an Elmer to enlighten those in need.

Best ways of learning Morse Code? Fox Hunts? Best practices for RF grounding. Simple advice on transmission lines, Antennas, station set ups or just arranging a station for best wire dressing.



You might even have knowledge you have acquired that you did not know you had!



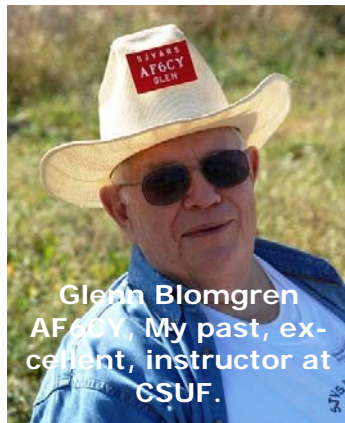
Come out early and visit with the Elmers or be an Elmer or both. 6:30 PM, 30 minutes before the regular meeting. Maybe someone will have the story on who and where

"Elmer" was first used, hi hi.

See you all there, de Dan Pruitt, AE6SX,

FARC ENCOMM (continued from page 10)

come back at NAS Lemoore. Ed Vonderbeck, KA6PNL (CAP, OES/ACS, KINGS ARES EC, PRES KINGS ARC) has been tasked with reinstating operations under the new disaster czar there. Good equipment, quarters and a mission for July. The nice thing, they want to work with all of us in the region. I'm expecting good things since I've witnessed his dedication in the new SKYWARN station and school demonstrations. If there are any AWOL MARS ops out there contact Ed



at: edwin.vonderbeck@gmail.com.

Hope to see great stuff at EmComm West & Pacificon, May 1, 2 and 3. Forums, demos look good and I never miss the swapmeet!

Join us on the net at 1930 hours local, on Monday nights on 147.150+, PL 141.3. Or our Monthly meetings on the 4th Thursday of each Month at 1900 hrs. Come join us at the Salvation Army Citadel, 1854 N. Fulton St. and on the 3rd Friday of each month at Yosemite Falls Cafe on Blackstone, just North of Shaw ave, for EmComm and Coffee. Time is 0830 hours.

Check out the websites www.fresnoares.com or www.fresno-races.net. You can contact us on the website or me directly at ae6sx@fresnoares.com .73 TU ,. .

Technical Web Site of the Week - Wow! Everything you wanted to know about tower foundations is summarized in this [IEEE document](#). This presentation (the URL provided by Bob W5LT) is aimed at the power line engineer, but many of the same concerns apply to ham radio towers. A great overview to keep handy.

- Richards Rule: If you fix something long enough, eventually, you will break it.
- Hoppman's Law: The more you leave it alone the better it works.
- Zimmerman's Law: If, while repairing something, it starts working again, and you don't know what you did, then you didn't repair it.

The Prez Sez (Continued from page 1)

Our next meeting is May 8th, our speaker will be Charles W6DPD on the Log Book of The World. The cost of QSL cards compared to the Log book of the world a one big reason you should attend this meeting. Many long time DXers are transferring their paper log books to Log Book of the World there has to be a major reason for this. Come and find out what it is all about. Please put this date down, it should be a full house so get there early

See you Friday and don` t forget the attendance prize at 7:05.

73`s Tom

Editors Comments (Continued from page 3)

The keynote speaker at the DX Convention was Vice Admiral John Scott Redd, USN, Retired, KODQ; Scott as he's known. What a fascinating 40 year career Admiral Redd has had. The crowd was entertained for 45 minutes with Navy stories from a person who has seen, first hand, problems develop in the middle East and around the World. Admiral Redd's last assignment before retirement was Deputy Administrator and Chief Operating Officer of the Coalition Provisional Authority in Bagdad working directly for Paul Bremer, the Director of Reconstruction and Humanitarian Assistance for Iraq.



If you've never attended the Visalia DX Convention you should (at least once). There are plenty of forums for the non-contester / DX operator and it's in our back yard. There were two major prize winners at the dinner this year; Carole Whittiberry, W6TFF, and Tony Gullickson, W6WI.

This month we feature a very nice construction project with permission from by Paul Wade, W1GHZ. Paul is a well known Microwave Engineer and contributor to QST, QEX, and other Ham Radio Magazines. Got Power Poles? Paul tells us how to put them to use.

Editor's Comments

I have included an article about the "Echoes of Apollo" (EOA) event that has snowballed Worldwide. This is the 40th anniversary of the Apollo Moon landing. To commemorate this event Pat Barthelow, AA6EG, has pulled together many Big Dishes from around the World to do a Moon bounce event with each other as well as contacting small stations that have "L" band and elevation capability (1296 MHz). Any station that is satellite "L" band equipped or has a small EME station will be able to communicate with many of the Big Dishes that will be on the air that weekend (Field Day weekend). Pat and I have a commitment from Stanford Radio Institute (SRI), the operators of the dish, to activate the Big Stanford (150 foot) Dish! The May issue of CQ-VHF will be carrying story and cover shot about "Echoes of Apollo" . Also The New York Times has interviewed Pat and will be doing a story that will be published around the time of the event, June 27th.

News and General Interest (cont. from page 12)

Silver plating a tank circuit coil looks swell, but does it accomplish anything, efficiency-wise? Not at all on HF and just a little on VHF and up. And then there's silver-plating and there's silver-plating. The moonbouncers are always squeezing the last dB out of everything, so this [discussion about plating](#) from [Moon-Net](#) and a [set of tests by Larry WØQE](#) makes good reading! (Thanks, Gary ZL2IFB)

Can you use J-B Weld epoxy in strong RF fields? According to numerous reports, while you can't roller skate in a buffalo herd, you can use J-B Weld to fix (and even build) antenna parts. It claims "liquid steel" as an ingredient, but it is non-conductive and is apparently not lossy, either.

Another Web site to have in your folder of Technical Reference bookmarks is this [compendium of connector pin-outs](#). I used to have a little pocket book of connector info, but this is 10 dB better.

2009 AMATEUR RADIO EXAMS

UNLICENSED THRU EXTRA CLASS
Sponsored By the FRESNO Volunteer Exam (VE) TEAM
And The
FRESNO AMATEUR RADIO CLUB, INC.
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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 16

August 15

November 21

LOCATION: ...Bonaventure Mobile Home Park, 1724 Minnewawa Ave Clovis CA 93612-2545. Exams are held in the community room.

DIRECTIONS: From Highway 99 South of Fresno, exit Clovis Ave. Go north to Shaw and turn left on Shaw to Minnewawa. Turn right on Minnewawa and then left to the Mobile Home Park.. From Highway 41 or Highway 99 North of Fresno, take Shaw Ave. exit, turn right (East), to Minnewawa Ave and turn left. Then turn left into the Mobile Home Park.

Theory exams are multiple choice. Priority 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 arrive in about two weeks.

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** and CSCE's if upgrading. Talk in on 146.94 repeater.

Walk in's only, no pre-registration.

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

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Spouses Name _____ Anniversary Date _____
License Class _____ First Year Licensed _____
I am interested in serving on one of the committees. Please contact me with more details. _____

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**Upcoming 2009
Fresno Amateur Radio
Club
Activities and Events**

**April 7th Board Meeting
April 10th Club Meeting**



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