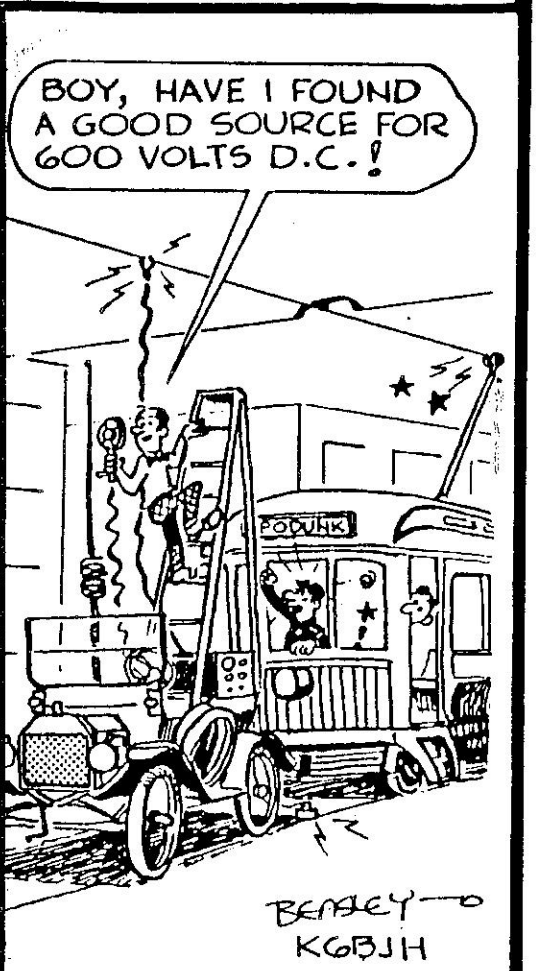
The READOUT

YEAR 11 NUMBER 5 MAY, 1988

IT'S UNCLE CARL--HE WANTS YOU TO MEET HIM ON ONE POINT TWO GIGGLE HURTS!



Stanislaus Amateur Radio Association, Inc.
P.O. Box 4601 Modesto, Ca 95352

...THE READOUT FACTS...

READOUT is the official publication of the Stanislaus Amateur Radio Association Inc. "SARA" P.O. Box 4601, Modesto, CA. 95352. Entered as third class mail at the U.S. Post Office Modesto, CA. 95352. Contributions to READOUT are always welcome and may be submitted to the editor, Bob Pinheiro, WA6ZLO at 1221 Mist Flower Ct . Modesto, CA. 95355. SARA owns and operates two F.M. repeaters. 145.39 MHz (-) located on Mt. Oso, 22 miles SW of Modesto at an elevation of 3,370 feet. Our 220 MHz repeater operated on 223.68 MHz (-) and is also located on Mt. Oso at an elevation of 3,500 feet. Both repeaters are equipped with an autopatch for the use of SARA members. SARA owns and operates a Packet Digipeater, WD6EJF-1, also located on Mt. Oso at 3,500 feet. Frequency is 145.01 MHz. SARA conducts an informational net on both repeaters each Thursday evening at 800 pm with the exception of holidays. SARA meets the third Tuesday of each month at the Stanislaus County Administration building at the corner of 12th and H streets in downtown Modesto. Meetings begin at 730 pm. SARA is incorporated in the State of California , is an affiliated club of the American Radio Relay League (ARRL) and Stanislaus County RACES. Dues are $20.00 per annum and $10.00 for students up to sophomores in college. Dues are pro-rated for newly joining members from the date they join. ARRL memberships and QST renewals may be made through the club with a $2.00 commission retained by SARA.

PRESIDENT

Bud Pelletier.....N6OCV.....823-0877

VICE PRESIDENT

Bill Duncan.....WA6OHP.....537-2785

SECRETARY

Dottie Duncan.....KI6YQ.....537-2785

TREASURER

Bob Vreugdenhil.....N6OCS.....522-6127

HAPPENINGS

Next SARA Meeting

May 17, 1988

Program

Open

Raffle- Win Money

730 pm

On The Agenda.

The April 19, 1988 meeting of SARA was opened at 730 pm by President, Bud, N6OCV. Treasurer's report was read and approved. Starting balance of $2169.98 with four deposits of $257 and bills totaling $375.34 for an ending balance of $2051.64. Under old business Lori, N6JTD, is checking into a band for the October dinner-dance. A deposit of $200 was required by the Oasis Restaurant for the use of their facilities. N6OCV led a discussion on the liability insurance matter. NV6S moved that the club purchase the insurance for one year and WD0FFX seconded. The motion was approved. Cost will be $635 for a million dollar policy. The insurance will cover anyone injured and all club functions. OCV offered the use of his home for storage of any donations for a flea market type club fund raiser. Other fund raising ideas were discussed including a side of beef, VCR, hand gun raffle, breakfasts, lunches or dinners. WG6P moved that we check into a raffle and WD0FFX seconded. Dan, KB6TTY volunteered to look into a raffle. It was decided to participate in Field Day this year. A good location is a priority. Parks for non-profit organizations would be good. WG6P will call Steve, N6EKV to coordinate the effort. WJ6O will get logs etc. A generator is needed and will be setting up two stations. Break for refreshments. After the break, OCV announced the next VE exams sponsored by SARA will be held on May 5th and 7th at County Center #3. OCV provided the program for the evening, a video tape on testing going on at the Sandia Lab in Livermore where he works. Gene, KI6DC, said the FCC would give a program if asked in writing. A slide show on Peter I Island is also available. Meeting adjourned at 916 pm. Respectfully submitted by Dottie Duncan, KI6YQ, SARA Secretary.

MY SUPERCHARGED CHEVY 350 V8 WITH 400-425 HORSE POWER

By Gary Davidson, KJ6Q, Vacaville

Although not related to Amateur Radio, the subject of many conversations on 39 involved my supercharged Chevy 350 V8 engine which I rebuilt from scratch using all first class components. It's capable of power output in the 400-425 hp area and is coupled with a Chevy 3 speed overdrive transmission to a Ford rear-end which I installed in my 1969 Datsun pickup. The interior has all new carpeting, bucket seats, diamond tuck headliner and door panels. The body was originally purchased for $130 minus the engine and transmission. I did all the conversion work from the original Datsun engine and drive-train as well as all the bodywork prior to giving it a new paint job. Interior additions include an AM-FM stereo console with cassette deck and graphic equalizer and several new gauges necessary to monitor the engine-supercharger functions. Just for fun, I added a cruise control and mounted my 2 meter radio. I estimate that after 4 years and two different engines, I have somewhere in the neighborhood of $3,500 in this truck....a lot cheaper than a new one.

To answer the inevitable question, why? I will reply on terms an Amateur radio operator should understand. Why a higher antenna, or, why a bigger amplifier? It's for that

MY SUPERCHARGED CHEVY 350

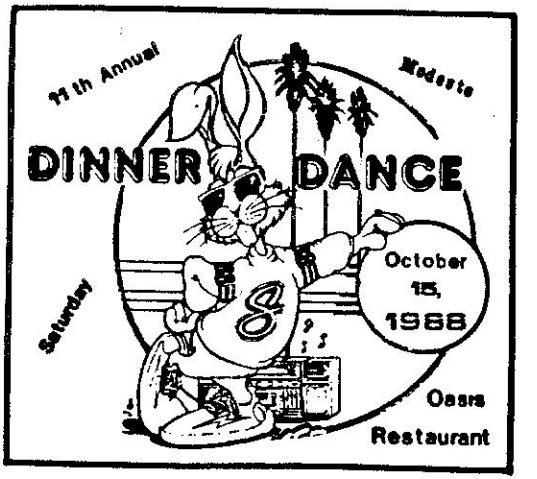
(Continued from Page 4)

little bit extra that comes in handy occasionally, or to be more competitive with some of the new performance cars on the road today. How fast will it go? ....I'll never know! It geared and powered to top 160 mph, but I will never attempt it. According to it's power and hp, it should do about 120 mph in 11 seconds at a drag strip. I drive it to work everyday, about 12 miles round trip and several weeks ago drove it to my parents home in Arizona. Like most small pickups, it is cozy inside, even more so with the bucket seats. But, it's a pure delight to drive, especially in situations where rapid acceleration is needed. It's fun to see those lower jaws drop on the faces of those economy car drivers as I go zooming by.

DID YOU KNOW?

A conviction for "exhibition of speed" or driving over 100 MPH, may result in license suspension for one year. And, bicycle riders may be cited for violating traffic laws including drunk driving (yes...on a bicycle.

OH HARRY--THE GENTLEMEN FROM THE ANTENNA ORDINANCE ENFORCEMENT COMMITTEE ARE HERE TO NEGOTIATE!



EDITOR'S NOTES

By Bob Pinheiro, WA6ZLO

Get your station ready for the most powerful and capable OSCAR satellite ever! Arianespace, the European Space Agency, announced that the launch of AMSAT's Phase 3C spacecraft is scheduled for May 26th. The Amateur satellite will be launched by a powerful Ariane IV rocket from the Kourou Space Center in French Guyana on the northeast coast of South America. Phase 3C's elliptical orbit will vary from 22,-000 miles at its highest point down to a low of only 25 miles. Release for general Amateur use won't come until about July. +++ Congratulations to Dave, KJ6DL who upgraded to Extra. Our President N6OCV and Charlie Shaffer, N6PZS upgraded to Advanced. Linda, N6REB, has passed her General written test. Joanne Shaffer, KB6-WLM, (Charlie's wife) upgraded to Technician. Welcome to Joanne and her husband Bill Reynolds, KB6WLH and Al Dionizio, KB6WLG all of whom are graduates of our current license class and have earned free membership in SARA for the remainder of the year. Congratulations and welcome aboard! Shirley, KB6TQW, has upgraded to General and has a new call. She is now N6RTU. Also, a warm welcome to David and Christine Loving, KB6SGO and KB6SKB of Fair Oaks, CA. who are new members of the club. Our roster now stands at 147 and climbing. +++ From time to time we get reports of missed newsletters. +++ You never know who you are going to meet on CW. I answered a CQ on 75 meters the other night and had a very nice QSO with Dick, KB6VWU in Apple Valley. I was aware that Apple Valley was the home of Roy and Dale Rogers so I asked Dick (facetiously) how Roy and Dale were doing. He said just fine. He said he lives about 1/2 miles from them and they had just bought two new Toyota Supras from him. He's a car salesman in Apple Valley. A reminder, if you don't get your newsletter by the middle of each month, contact me right away for a replacement. It's important to us that you get your newsletter each month. We leave you with these words of wisdom ....never play leapfrog with a Unicorn. 73 Bob, WA6ZLO.

DX NOTEBOOK

By Tom Farr, WJ6O & Denny Dugal, WG6P

The KH1 expedition went according to plan, with considerable activity on all bands. I (WG6P) was lucky enough to work them on 6 bands, both modes as well as 2 bands on RTTY! So they were very easy to work. Are you in their log? The operators made over 26,000 contacts during their operations. That made it a very exciting operation. Current DX active at this time include 3B9FR, Roberto on Rodriquez island. This is a rough one to work, as propagation has not been good from W6 land to this rare location. However, Roberto will be there for approx. 1 year, so we should develop good conditions by then. Also active, but very questionable, is EP2HZ and EP2DL, two stations from Iran. The operators are actually there, however, Iran is in a state of war with most of the free world, and as such have suspended amateur radio operations. This info comes from the Minister of Communications in Iran, and was reported to the ARRL DXCC Chairman, Don Search. So if you work this one, get the card for your wall, but don't figure on it counting for honor roll. VK9YT has been very active on all bands from Cocos-Keeling island in the Indian Ocean. This is a different Cocos Island than the one off of South America. Look for him in the usual DX windows, and QSL via W7SW. Upcoming DX includes a very superb operation from KH5K, Kingman Reef. There will be a host of international operators including JA5DQH, Aki, who is a superb CW operator. You may have worked Aki from XX9XX, Macao. The expected calls are supposed to be K9AJ/KH5K on Kingman for one week beginning April 23, and then the operators will go to Palmyra Island, KH5, where they will operate for one week using the callsign W0RLX/KH5. Good luck on this one! According to the propagation forecasts, things are looking good for band conditions. On Sunday April 17, 1988, the 10, 15, and 20 meter bands were wide open with all parts of the world coming in at once. Very excellent conditions. Last week there was a major solar disturbance, which caused a lot of problems with the bands for several days. Things are fine now however. Happy DX'ing for the month of May and all summer.

EARTHQUAKE

By Bob Pinheiro, WA6ZLO

It was shortly after 5 am on July 22, 1952. My dad had just gotten out of bed and was making his way to the bathroom (no doubt still half asleep) when the house started to shake. The movement was strong enough to cause him to lose his balance and fall into the bathtub. My mother was jolted awake by the commotion and came to his aid. "What happened to you?" my mother asked? "I don't know!" my dad replied scornfully from the bottom of the tub. "Somebody is shaking the house!" he said. They later learned that the shaking was caused by an earthquake that was centered in Kern County.

California is best known to many outsiders for just one thing- EARTHQUAKES which are produced by sudden slippage of surfaces (faults) that relax elastic strains that have accumulated over long periods of time due to the relative movements of the earth's crustal plates. The direction and the amount of slip are governed by the total strain accumulated across the fault between successive rupture events. Thus each earthquake terminates one cycle of strain accumulation and initiates the next.

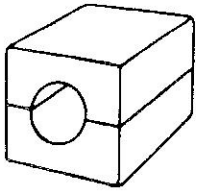
According to the book, CALIFORNIA IS EARTHQUAKE COUNTRY, by Robert Iacopi (Sunset Books), though sometimes exaggerated, California's position in the world of earthquakes is indeed a significant one. It is part of the circum-Pacific seismic belt that is responsible for about 80 per cent of the world's earthquakes. All parts of this belt are annually jolted by countless numbers of major and minor shocks, and California is no exception. Other spots around the Pacific Basin, such as Japan and the Aleutian Islands of Alaska, may have more earthquakes than California, but the West Coast state still is hit by thousands of shocks every year, some 500 of which are large enough to be felt by many people. Earthquakes of destructive magnitude have occurred in California on an average of one a year for the past 50 years, and few earthquakes in the world received as much publicity as did the 8.3 magnitude 1906 quake that devastated San Francisco.

To order specify bead size and mix. Available in sizes and mixes marked X in table above.

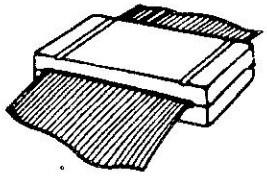
Split Beads

Often it is difficult to slip beads on a cable because of a plug or connector. Split beads solve this problem. They come in two halves that fit over the cable. They are held in place by tape or clamps.

Split beads are 1" long and of 43 material for use from 1-1000 MHz.



FSB-¼	For ¼" diameter cables	$2.50 per set
FSB-½	For ½" diameter cables	$5.00 per set



FSB-2	For flat ribbon cable up to 2" wide and .05" thick	$8.00 per set
FSB-2½	For flat ribbon cable up to 2½" wide and .05" thick	$12.00 per set

Ferrite Rods

Ferrite rods are available in 61 material (Permeability 125, use from .2-10 MHz) and in 33 material (Permeability 800, use from .01-1 MHz).

FR-4-33	½" dia., 4" long, 33 material	$2.25
FR-4-61	½" dia., 4" long, 61 material	$2.25
FR-7½-33	½" dia., 7½" long, 33 material	$4.00
FR-7½-61	½" dia., 7½" long, 61 material	$4.00

Palomar Engineers

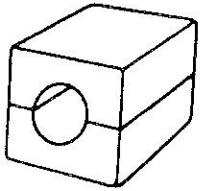
P.O. Box 455, Escondido, Calif., U.S.A.
Phone: (619) 747-3343

There are three bead materials in general use: Mix 73, Mix 43, and Mix 64. The impedance in ohms of size FB-18 beads vs frequency is shown in the following table.

Bead Material	Frequency				
	1-MHz	10-MHz	40-MHz	100-MHz	1000-MHz
73	45	110	110	110	120
43	15	70	110	150	160
64	6	40	110	160	400

From the table we see that beads of the three materials work about the same at 40 MHz where the impedance is 110 ohms.

Below 40 MHz material 73 is best. Above 40 MHz material 64 is best. For overall performance from 1-1000 MHz material 43 is the best choice.



Split Beads. This is a new development to solve the problem of putting beads or toroids over cables that have big plugs on the end. They are beads that have been cut in half. You put the two halves over the cable and wrap them with tape to hold them together. The mating edges are polished smooth so the two halves mate very closely.

They are available with center holes of ¼" and ½" diameter. Also for flat computer cable 2½ or 3" wide.

It is important that the two halves of the split beads fit exactly together. So the ¼" hole beads cannot be used for cables larger than ¼". It does not matter if the cable is smaller than the hole.

All split beads now available are of 43 material which is the best overall material for 1-1000 MHz interference suppression.

Toroids. When we start talking about slipping beads over coaxial cable and multi-wire cable we see that we may need beads with pretty big holes. Also, if the cable has a molded plug on the end (like some power cords, for example) the plug has to go through the hole and we may need a very big hole indeed. Fortunately a variety of ferrite toroid cores are available with holes as big as 1.4" diameter. They are not available in all the same materials as beads but in similar ones. As a guide when specifying toroids for RF suppression:

Mix 77 is the best below 40 MHz
Mix 43 can be used from 1-1000 MHz and is the best from 30-150 MHz
Mix 61 is the best above 200 MHz

After you put that big plug through the toroid hole you'll find that the toroid fits the cable very loosely. Don't worry. It will still work fine. If there is room to do it, loop the cable around and run it through the toroid again. Do this as many times as you can. Each turn is just like adding another toroid. And, using the big Mix 61 cores, you add an inductive choke where two turns is four times as good as one turn, three turns is nine times as good, etc.

Burglar Alarms. These are much like telephones in that they have extensive wiring throughout the building that acts like an antenna to pick up RF. The solution is the same: Use beads or toroids on the wires entering the electronics box to keep RF out. It also may be necessary to put beads on the 115-v AC power cord.

VCR's. The VCR is a real RFI problem. Ferrite beads on all wires entering the VCR can eliminate RFI from most amateur bands. But on 80 meters even this doesn't always work. W6BIP has worked on this problem; see **Ham Radio Magazine** October 1984 p. 113.

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Ferrite Beads

Using Ferrite Beads to Keep RF Out Of TV Sets, Telephones, VCR's, Electronic Equipment Burglar Alarms and Other

RFI and TVI have been with us for a long time. Now we have microwave ovens, VCR's and many other devices that do wrong things when they pick up RF.

There are several ways to tackle the problem but most of them involve opening the affected equipment and adding suppressor capacitors, filters, and other circuit modifications. Unfortunately there is a serious disadvantage associated with this approach. Any modifications made to domestic entertainment equipment can — and often are — blamed for later problems that arise in it. Modifying your own equipment is not so bad, but taking a soldering iron to your neighbor's stereo is risky.

An alternative approach is to use ferrite beads to reduce the amount of RF entering the equipment. If the equipment is in a metal box, or even if it's in a plastic box, if RF is prevented from entering the box on the antenna lead, the power cable, the speaker leads, the phono pickup leads, and on any other wires entering the box, it is possible to solve the problem without any modification to the equipment. Ferrite beads just slip over the wires and stop RF from going in.

Ferrite beads are made of the same materials as the toroid cores used in broadband transformers but are used at much higher frequencies. For example, ferrite Mix 43 is used for tuned circuits in the frequency range .01 to 1 MHz. It is efficient and losses are low. But, if it is used in the 40-200 MHz range it is lossy. So when you slip a bead of Mix 43 over a wire and there is RF in the 40-200 MHz range going down the wire, it is just as though you put a resistor in the wire. But you did not have to cut the wire to insert a resistor; you just slip a bead over the wire. If the resistance of one bead is not enough you can add more beads or add longer beads to get more resistance. The beads, unlike a resistor, do not affect the wire at low frequencies so the audio, DC, and other low frequency components go through the wire just as though the bead were not there.

It is important to remember that the frequencies mentioned are those of the interfering signals to be eliminated; not the operating frequencies of the equipment being protected. For example: To protect a telephone operating at voice frequencies of .002 MHz we use type 43 or 73 beads to keep 14 MHz RF out.

So when you buy beads you must specify both the physical size (FB-3, FB-8, etc.) and the material (Mix 73, Mix 43, etc.) depending on the frequency of the RF interference. FB-1, FB-3, and FB-7 have .05" holes that will slip over bare #18 guage wire. FB-8 has a .09" hole and will slip over the insulation of #22 wire. FB-24 and FB-63 have .2" holes to go over larger wire or cable.

Cables. So far we have talked about slipping beads over individual wires. But, in many cases, we are going to find two wire speaker cables, two wire or three wire power cables, twinlead antenna cable, and multi-wire control cables. Cable wires are close together and act just like a single wire as far as RF pickup is concerned. So the whole cable can go through the bead and this will suppress RF transmission through all the cable wires. This is a lot easier than putting beads on each wire.

Twinlead is a special case. If you put a bead on each wire you'll kill the TV signal. But if the whole twinlead goes through a single bead, the TV signal goes on through but the RF interference is suppressed by the bead. This is because the twinlead is a transmission line to the TV signal but looks like a single wire to the RF interference.

This brings us to coaxial cable. The signal going through the coax is confined to the inside of the coax shield. But the outside of the shield acts just like any wire; it can pick up RF and that RF can be carried to the TV or monitor. Shield beads placed over the cable will suppress this interference.

Telephone Interference. The standard telephone is highly susceptible to RFI. The telephone wiring in the house and outside on poles make a large receiving antenna. And in the telephone instrument are voltage-variable resistors that act like detector diodes so nearby radio stations are clearly heard. The solution is to keep RF out of the telephone by putting ferrite beads on the telephone cable as it enters the instrument.

The plug of modular telephones will go through F82 toroids. Or ¼" split beads can be put over the cable.

We have been talking about keeping RF *out* of equipment. You can also use beads and toroids to keep RF *in*. That fish tank heater that makes all that racket on 80 meters is using its power cord and the house power wiring to radiate interference. A bead or toroid on the power cord right at the heater can keep the noise from entering the wiring. Computer power cords and connecting cables can be treated in the same manner. Sometimes RF comes out of a transceiver's power cable. A toroid can stop it. Or RF flows on the outside of the antenna cable, going right around your lowpass filter. Again, toroids to the rescue.

Each interference problem is different. You have to try this and then try that until you find a solution. Using the principles outlined here, ferrite beads and toroids can be extremely helpful.

Ferrite beads are used for RF shielding, RF decoupling, and parasitic suppression. Just slip them over the wire or cable. At DC or low frequencies they have no effect but at RF they act just like a resistor in the line and will reduce or eliminate RF feedthrough. If one bead is not enough slip on more beads or use longer ones. Mix 73 beads are semi-conductive and must be positioned so they can't short anything. The other beads do not conduct.

All beads work well from 1-1000 MHz. To favor 1-40 MHz use Mix 73. To favor 40-200 MHz use Mix 43. To favor 200 MHz and up use Mix 64. The frequencies mentioned are those of the interfering signal to be eliminated; not the operating frequencies of the equipment being protected.

If larger beads are needed, use ferrite toroids Mix 77, 43 and 61. Mix 77 is best for 1-40 MHz. Mix 43 is the best all-round suppressor and is especially good for 40-200 MHz. Mix 61 is best for frequencies above 200 MHz.

BEAD SIZE	MIX 64	MIX 43	MIX 73	SIZE O.D. (In.)	SIZE I.D. (In.)	SIZE Length (In.)	PRICE PER DOZEN $ (U.S.)
FB-1	X	X	X	.14	.05	.12	2.00
FB-2	X	X	X	.08	.04	.15	2.00
FB-3	X	X	X	.14	.05	.23	2.00
FB-4		X	X	.14	.05	.05	2.00
FB-7		X	X	.14	.05	.50	2.00
FB-8	X	X	X	.30	.09	.30	3.00
FB-15		X		.14	.06	.13	2.00
FB-18	X	X	X	.20	.06	.44	3.50
FB-24		X	X	.38	.20	.19	3.50
FB-63		X	X	.38	.20	.41	3.50

Earthquakes are a part of California's heritage, and we must learn to live with them and be prepared for them. The dangers involved are more a result of a man's ignorance than of nature's destructive force. We, as Amateur radio operators, must continue to be prepared to fulfill our mandate and provide vital emergency communications whenever and wherever and earthquake strikes. It is never a question of IF another quake strikes, but WHEN! We must be prepared!

GREATEST QUAKES ON THE PACIFIC RIM: (Magnitude of 8 plus)

June 9 or 10,	1836.....	Hayward area.....	Est. 8+ Mag.
January 9,	1857.....	Tejon Pass, CA..... (Near Gorman, CA)	Est. 8 Mag.
October 21,	1868.....	Hayward.....	Est. 8 Mag.
April 26,	1872.....	Owens Valley.....	Est. 8.3 Mag.
April 18,	1906.....	San Francisco	Est. 8.3 Mag.
March 27,	1964.....	Anchorage, Alaska.....	8+ Mag.
Sept. 19,	1985.....	Michoacan, Mexico.....	8.2 Mag.

OTHER SIGNIFICANT QUAKES OF LESSER MAGNITUDE:

June 29,	1925.....	Santa Barbara.....	6.3 Mag.
March 10,	1933.....	Long Beech.....	6.3 Mag.
December 4,	1948.....	Desert Hot Springs.....	6.5 Mag.
July 21,	1952.....	Kern County..... Bakersfield-Tehachapi	7.7 Mag.
March 22,	1957.....	Daly City.....	5.3 Mag.
February 9,	1971.....	San Fernando Valley	6.4 Mag.
October 15,	1979.....	Imperial Valley.....	6.5 Mag.
May 2,	1983.....	Coalinga.....	6.7 Mag.
April 24,	1984.....	Morgan Hill.....	6.2 Mag.
July 8,	1986.....	North Palm Springs.....	5.9 Mag.
July 31,	1987.....	Cape Mendocino.....	5.5 Mag.

Seismologists have predicted that a moderate-size earthquake will occur within the next few years at Parkfield, California in Southern Monterey County. (Less that 150 miles from Modesto). The prediction has been painstakingly reviewed and subsequently endorsed in 1984-85 as scientifically valid by two highly qualified panels. Nowhere else in the world is a prediction in effect with a degree of confidence as high as that for Parkfield. Parkfield, population 34, is

.....See EARTHQUAKES on next page.

about halfway between Paso Robles and Coalinga . Here, on a specific 25-kilometer segment of the San Andreas fault, studies during the past decade have indicated a 95 percent probability that a quake of about 6 magnitude will occur before 1993. It is possible that a quake as large as 7 magnitude could occur which could affect as many as 100,000 people. A significant scientific effort is currently underway, supported by both State and Federal funds to monitor the Parkfield area with instruments, in the hope that it will be possible to predict the quake before it happens. Earthquakes have occurred on the Parkfield section of the San Andreas in 1857, 1881, 1901, 1922 and 1966. Data indicates that quakes of a magnitude of 6 have occurred near Parkfield every 21-22 years. Will 1988 be the next one?

The most important point to be made in any consideration of future earthquakes in California is that fault activity will continue for countless centuries. And as long as there are fault movements, there will be earthquakes. Being informed and prepared is the best way to minimize the danger. It's relatively easy to set down a few rules of conduct to follow when an earthquake strikes, but these rules are not always easy to follow. Since we won't have any advance warning and the actual shaking will probably be over in less than a minute, the whole ordeal may start and stop before you have time to compose your thoughts. Set aside some emergency supplies, and teach your family what to do at home during and after a disaster. You could be without help for up to 72 hours, so learn to cope for at least that long. Movement of the ground is seldom the actual cause of death or injury. Most casualties result from partial building collapse, falling objects and debris, like toppling chimneys, falling bricks, ceiling plaster and light fixtures and many of these conditions are easily preventable. Earthquake motion is not always constant; there may be a few seconds between tremors. If there is, here are some suggestions. Resist the urge to panic! You can't think straight if you lose your cool.

.....See EARTHQUAKES on next page.

EARTHQUAKES (Continued from Page 10)

If you can get into an open area or field, do so! Make sure you are not in the range of falling debris. In a severe shock, you may not even be able to stand, much less walk. Try to get as far as possible from buildings that may collapse in whole or in part. But if you are in a building, especially in a downtown area, stay right where you are and don't run into the streets. Many of the deaths recorded in quakes have been caused when frightened people run into the streets and get hit by falling debris. In this circumstance, the best thing to do is get into a doorway if you can to take advantage of the overhead re-enforcement of the door way for protection . Stay away from masonry walls, chimneys and large glass areas which are most susceptible to collapse.

If you are indoors, try to find some protection from flying fixtures or debris. Crouch under a desk or table or roll under a bed. This may supply useful psychological help as well as actual shelter. Don't be too alarmed by explosive flashes from power lines and transformers, but keep you distance from them if they fall from their mounts. Don't be fooled in to thinking that the fallen lines are dead because all the lights in the house are off. The first thing the power company is going to do is try to reestablish the service and recharge the line. That might be the time you are standing on or near it and you get ZAPPED! After the shaking stops, you can start working to minimize the post-quake damage. Check family and neighbors for injuries. The check for fires. If there are gas leaks turn off the main gas valve at the meter on the outside of the building.

Store some drinking water in case supply lines are disrupted. Fill several containers, but don't draw a large quantity. Thousands of homes drawing a great deal of water all at once might seriously hinder fire fighters by reducing pressure. Use the phone only for emergency calls. DON'T call relatives and friends just to ask them, "did you feel the earthquake?" And don't start driving around the neighborhood to gawk at the damage. There will be many emergency vehicles on the streets and your car will only get in the

.....See EARTHQUAKES on next page.

EARTHQUAKES (Contined from Page 11)

way. If you are in your car when the quake hits, pull to the side of the road and stop the car. Do not park under overpasses or power lines. Stay in your car until the earthquake is over. If the earthquake has been severe, do not attempt to cross bridges or overpasses that may have been damaged.

Heed requests for assistance and pay particular attention to any emergency instructions given by official organizations such as the police, civil defense organizations and fire departments. If the electricity is out, use your car radio or a portable battery operated radio to tune in your local area radio stations. If the EBS (Emergency Broadcast System) is put into operation by declaration of local, regional or state officials, you will receive important information regarding health, safety and welfare. Do not be confused about what frequency to dial.

Some people still remember the old CONELRAD Emergency Radio System which operated on 640 and 1240 KHz. That system was abandoned many years ago and replaced with the EBS system. Now, most radio stations remain on their assigned frequencies, even during an emergency. We as Amateur radio operators of course will play a vital role in establishing communications when and if the local communications are destroyed, damaged, or disrupted. True to our tradition, we have, and will continue to do so. California's next great quake may take place while you are reading this, or it may not come during your lifetime. But on thing is certain: IT'S DEFINITELY ON THE WAY.

(Thanks to the California Geology Magazine which contributed to this article.)

AMATEUR RADIO CALL SIGNS IN SIXTH CALL AREA

The following calls were issued by the FCC as of April 1, 1988 in the sixth call area. Extra- AA6HS. Advanced- KJ6FF. Technician/General- N6RUN and Novice-KB6WSG.

Letters

February 19, 1988

Stanislaus Amateur Radio Association
P.O. Box 4601
Modesto, CA. 95252

Gentlemen:

Last Friday afternoon our telephone service was interrupted. All of our phones were out. I walked over to our neighbor and found his phones were also out. If I had kept the instructions for the phone patch I could have called the 611 Repair Service (Tracy) and report the problem.

I got on our repeater and reported my problem. Almost immediately another station agreed to call the telephone company for me and was told that someone had accidently cut the cable and that they did not expect to have it repaired until Saturday at 6 pm.

I would appreciate having another copy of the autopatch procedure for our 2 meter repeater. We live 10 miles from Tracy. It would be nice to know that in an emergency there is another way to make a phone call.

Sincerely,

/s/ John J. Bethman, WB6REM

VE Test Sponsored by

STANISLAUS AMATEUR RADIO ASSOCIATION INC. 1976

County Center 3

May 5, 1988
(Night Session)

630 pm - 20 wpm
700 pm - 13 wpm
730 pm - 5 wpm
800 pm - Written Tests.

May 7, 1988
(Saturday)

900 am - 20 wpm
930 am - 13 wpm
1000 am - 5 wpm
1030 am - Written Tests.

Modesto

Contact Person

K16YQ 557-8785

Walkin's OK

POSTAGE RATE INCREASES 33 1/2% FOR SARA NEWSLETTER

It will cost the club an additional $100.80 per year to mail The READOUT with the postal rate increase on April 3rd. The old bulk rate was 12.5 cents per copy. The new rate is 16.7 cents per copy, which is a 33 1/2 percent increase as compared to the 14 percent increase of a first class stamp from 22 to 25 cents. We mail 200 copies of The READOUT each month which will now cost $33.40 each month. The same 200 mailed by first class mail would cost $50.00. The savings is $16.60 a month plus the added benefit of being able to mail up to 15.99 ounces (nearly one pound) per newsletter vs. 1 ounce for first class. This is our second year using bulk mail (3rd class) and it has proven cost effective for us. It's a bit more work to segregate the newsletters by ZIP Codes, but it sure beats licking 200 stamps (UGH).

We know that life can be, and often is, a rat race. So, we would like to help. If there is a RED MARK on the rat's belly, it means that you have forgot to renew your SARA membership and this copy of The READOUT was sent to you with our compliments. We value your membership and hope that you will send in your check today. Please remember the dues have been increased to $20.00 per year. Make your check payable to SARA and mail it to the SARA P.O. Box 4601 Modesto, CA. 95352. Please be sure to include your telephone number and any changes since you last communicated with us. Thanks!

THE AMERICAN RADIO RELAY LEAGUE, INC.

SECTION MANAGER

SAN JOAQUIN VALLEY
Charles P. McConnell W6DPD

The FCC has released its proposed rewrite of Part 97, the Amateur Service Rules. In the proposed rewrite, Docket 88 139, the Commission proposes to bring the Amateur Rules up to date when compared to recent technology and operating practices. The basis and purpose of Amateur Radio in Part 97.1 remains unchanged. The Commission completely reorganized Part 97.2, dropping many unnecessary or redundant rules. Copies of the proposal, all 37 pages, are available from ARRL Headquarters for a SASE with 7 units of postage on it. Comments on this proposal are due at the FCC on or before August 31, 1988. Complete details will appear in the June 1988 *QST* and the *ARRL LETTER*.

France will allow its Amateurs living more than 150 km from certain TV transmitters to apply for a special permit to operate on 6 meters between 50 and 51 mHz. The power level must be 10 watts ERP or less. Thus France joins the growing list of countries that permits its Amateurs to use the six meter band.

ARRL has filed Reply Comments in response to the Comments filed by the United Parcel Service in Docket 87 14. The ARRL comments continue to emphasize that the 220 mHz band is critical for the development of packet links and notes that the number of 220 mHz repeaters continues to grow, increasing by 18% to 1421 in the ARRL Repeater Directory. This shows that there can be no expectation of reaccomodation of displaced 220-222 mHz stations in the remainder of the band.

DID YOU KNOW: The first edition of the club's newsletter was printed on December 1, 1977 and consisted of 2 pages. It was simply called SARA-NEWS until 1980 when the name was changed to The READOUT. Bob, WA6ZLO, has been the editor from it's inception except for 1980 when the editor was W6LHQ.

CALENDAR

May	6-7, 1988.....	Fresno Hamfest Airport Holiday Inn.....2 days
May	7, 1988.....	VE Test Saturday Morning in Modesto at County Ctr #3....900 am
May	17, 1988.....	SARA Monthly Meeting.....730 pm
June	21, 1988.....	SARA Monthly Meeting.....730 pm
Jun	25-26, 1988.....	Field Day.....24 hrs
July	19, 1988.....	SARA Monthly meeting.....730 pm
Aug.	16, 1988.....	SARA Monthly meeting.....730 pm
Aug.	20, 1988.....	Sierra Hamfest in Reno.....All Day
Sept.	9-11, 1988.....	ARRL National Convention Portland, Oregon.....3 days
Sept.	20, 1988.....	SARA Monthly meeting.....730 pm
Oct.	15, 1988.....	11th Annual SARA Dinner-Dance Oasis Restaurant, Modesto...630 pm

SARA meets the third Tuesday of each month (except holidays) at the Stanislaus County Administration Building at 12th and H streets in Modesto. The meetings are held in the lower-level conference room starting at 730 pm. Visitors are welcome.

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