

The READOUT

Year 16 Number 11 November 1994

The official newsletter of the Stanislaus Amateur Radio Association

73 magazine may be history

In a followup story to last month's report concerning the troubles at 73 magazine, the W5YI Report newsletter reports that key people at the magazine have been fired, including associate publisher David Cassidy and Judy Walker, advertising coordinator.

Cassidy, in an interview, told the W5YI Report that he was laid off by owner Wayne Green, W2NSD, on July 9th. "I don't know what's going to happen to 73 magazine" said Cassidy. "I'm no longer privy to the finances of Wayne Green, Inc. I know ad sales have dropped about \$10,000 per issue since I left. They are usually around \$50,000 to \$55,000." Asked if the magazine would survive, Cassidy said yes for the time being.

"But in the relative near future either of two things would have to happen. Either someone else will come in to run

See "73 magazine" on page 6

Oakdale man winner of SARA raffle Winning ticket sold by KA6CXR

"The only reason I bought the ticket was because of the gun!" That's what Phil Gordon of Oakdale said

ing a break in the break room at Gallo Glass in Modesto. Mr. Gordon was ecstatic upon learning of his good fortune and thanked the club for the prize.

Before the drawing, Acting Secretary WA6ZLO, pointed out that Ed, KA6CXR, had sold 200 tickets by himself, which was by far the most tickets sold by any member. ZLO suggested that the club offer Ed a free membership for 1995 for his efforts and loyal support of the club. It was immediately moved, seconded and unanimously approved that Ed receive the free membership. Everyone was thanked for their efforts in supporting the fund raiser. No problems were reported with all ticket stubs and monies returned to the club either in person or by mail in time for the drawing.

Bob, ZLO, contacted Ed, CXR, and thanked him personally for his tremendous effort and advised him of the winner's name. Ed appreciated the call and thanked the club for its kindness. Ed was asked for his thoughts about the gun being offered as a prize. He said that was the prime reason he was able to sell so many tickets. He said that the majority of the people who bought tickets only did so only after they learned that the Python was the prize. "It a tremendous prize which makes the tickets easy to sell and appealing— especially to men. I know I would not have been able to sell nearly that many tickets if the gun was not offered." said CXR.

Again "thank you" to everyone who participated, especially Jim Shea, KB5FB, of Mail Boxes Etc. in Turlock, who designed, printed, and stapled approximately 2,000 tickets for the event.



Happy Thanksgiving

when he was told he was the lucky winner of the 1994 SARA fund raising raffle held of October 18, 1994. As luck would have it, Phil purchased only one of the 1,760 tickets sold this year from fellow employee Ed Lacy, KA6CXR, while tak-

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(Except Holidays)

2 meters 145.39 MHz WD6EJF

220 Band 224.14 MHz WD6EJF

Contributions to *The READOUT* are always welcome and may be submitted to the editor by mail or via packet at KD6JZZ on 144.97 MHz. Or you can reach the editor's PBBS, WA6ZLO-1 via packet on 144.91 MHz. If you can not reach it direct on .91, you can go through the SARA K-Node of Mt. Oso. Type C SARA then C-WA6ZLO-1. The deadline for articles is the 15th of the preceding month. Articles regarding religion or politics are not accepted.

Editor

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An ARRL affiliated club !

ARRL membership may be paid through SARA with the club retaining a \$2.00 commission. Please send your ARRL membership form along with your check made payable to "SARA". We will deduct the \$2.00 and send a check to the ARRL.



To all SARA members:

As some of you know, I have been off work AGAIN. This time not only is my knee involved, but my head also. Black-out spells are not my idea of fun. The DMV also has no sense of humor and took away my driving privileges. Being stuck here at home with no HF radio was sure getting boring, also driving my family nuts. One must have some form of entertainment besides harassing your wife. That's dangerous!

So, at the August club meeting, at which I was not in attendance, it was voted to allow me to use the club HF equipment for a

while. Hopefully by the time the club needs the equipment I will have some of my own. Until that time any club member is more than welcome to come out to my place and use the it.

I have it feeding into a 6-element tri-bander and a 40M rotateable, all up at about 50 ft. There also is an 80M wire dipole and a 160M wire dipole is going up in the near future. I might even get the ambitious to build a 12-17-30M beam sometime soon. There are also 2 complete packet stations up and running for anyone to come out and play with and get their feet wet on packet.

So in closing, just a word of THANKS to the SARA club for letting me borrow the equipment for awhile. Also, don't forget, all club members are welcome to come out and play on the radios for a while. Sandy says she will keep the iced tea flowing. Many Thanks,

/s/ Jim Jones, N6UGH
Patterson, CA

For Sale

SARA member Derrill Coffinan has the following items for sale which he recently pickup as military surplus. The prices are right and in addition, Derrill is donating a portion of any items sold back to SARA. Anyone thinking about putting up a tower or looking for a way to anchor antenna or guy wires would be wise to check out these bargains. These items can be examined at Derrill's business address, Larry's Tire Mart, 1453 So. 7th Street in Modesto. Phone is 522-9096.

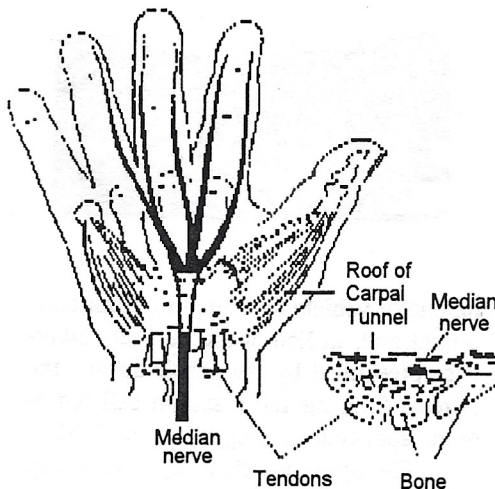
<u>Item</u>	<u>Size</u>	<u>Quantity</u>	<u>Price</u>	<u>To SARA</u>
Guy wire T-stakes	60"	9	\$20.00 ea	\$5.00
	54"	41	\$20.00 ea	\$5.00
	24"	600	\$2.00 ea	\$1.00
Auger stakes	51" x 1"	44	\$20.00 ea	\$5.00
	45" x 3/4"	16	\$10.00 ea	\$3.00
	29" x 3/4"	18	\$7.00 ea	\$2.00
Stake cable	4 ft. new	56	\$5.00 ea	\$1.00
	4 ft. used	42	\$3.00 ea	\$1.00
Copper ground rods	4 ft x 3/4"	24	\$5.00 ea	\$1.00
	3 ft x 3/4"	24	\$4.00 ea	\$1.00

Also, Derrill has 40 boxes of tractor feed computer paper. It's plain white 8 1/2 by 11 inches, 20 pound weight. One part, 2300 sheets to a box. These boxes usually go for around \$35.00 at commercial establishments. Derrill's price is only \$15.00 per box with \$3.00 donated to SARA. Here's your chance to pick up some good deals and help the club's treasury at the same time.

Carpal tunnel syndrome

With the advent of computers, more and more time is spent pounding away on keyboards and that could lead to some serious medical problems. Whether using the computer for fun and games or serious work, and especially if you are a secretary, it is stressful work. According to the National Occupational Safety and Health people, one of the most stressful occupations is that of a secretary.

Studies show that the intensive use of computer monitors on the job cause eyestrain and symptoms of visual deterioration, more muscle complaints and more stress than other types of work. Granted, the average ham radio operator can not be compared to a 40 hour a week secretary, but, when you stop to think about it, we do spend a lot of time in front of a computer monitor and with our hands on the keyboard.



Doctors often diagnose the condition as arthritis, although arthritis affects the whole hand, while CTS affects only parts of the hand.

Treatment

Treatment consist of eliminating the cause, wearing a wrist splint and resting the wrist. More serious cases require complicated treatment such as surgery or anti-inflammatory drugs. These treatments are the last resort and should be avoided if possible. Permanent disability can result even with surgery and the condition can reoccur if the person returns to the same routine.

Author unknown

- fingers or wrists
6. anxiety
- Stress—
1. anxiety
 2. irritability
 3. fatigue

Carpal tunnel syndrome

These common symptoms can lead to even more serious health problems over the long term. One of the more common hazards is Carpal tunnel syndrome (CTS). CTS is a disorder of the hand caused by injury of the nerve which runs from the shoulder to the hand through a channel in the wrist called the carpal tunnel.

Repetitive motions of the hand or wrist, especially in the bent position, can cause inflammation of the tendons which then squeeze the nerve, or cause a build up fluids. These factors apply pressure on the nerve resulting in pain, numbness and a tingling and burning sensation in the hand and arm. This in turn leads to degeneration of the muscles at the base of the thumb, dry shiny palms and clumsiness of the hand (s). Many of these symptoms are strongest at night and may be confined to the first three and one-half fingers and the base of the thumb.

Traditionally, CTS has affected mostly manufacturing operators. Most likely are meat cutters, sewing machine operators, construction workers, air hammer operators and agricultural workers.

“CTS is a disorder of the hand caused by injury of the nerve which runs from the shoulder to the hand through a channel in the wrist called the carpal tunnel.”

Symptoms

Common symptoms reported by computer operators include

—Visual

1. eye strain or sore eyes
2. blurred vision
3. burning, itching or tearing
4. change in ability to see colors
5. headaches

—Musculoskeletal—

1. neck pain and stiffness
2. shoulder pain or stiffness
3. back pain, especially the lower back
4. pain or stiffness in the legs and arms
5. soreness or numbness in

Did you know

— In the United States, FM channels between 88.1 and 91.9 MHz are set aside for the exclusive use of non-commercial stations, and religious stations, as well as those operated by non-profit foundations.

—The peak years for CB radio were 1974 to 1976 when approximately 12 million CB sets were sold per year. From 1977 through 1982 the FCC issued some 25 million CB licenses. During boom years there were over 40 publications in print serving the CB community.



How to apply for California ham plates for you vehicle

(Ed. note— We are running this article again for the benefit of the many new hams who have joined us over the last year and would like to know how to obtain California ham license plates for their vehicle. We are also reprinting an article on how to get lookalike set of plates for another vehicle you own.



the motor vehicle for which registration is sought and, in lieu of the numbers otherwise prescribed by law, shall display the official Amateur radio station call letters of the applicant as assigned by the FCC.

The applicant shall, by satisfactory proof, show that he or she is the holder of an unexpired license. (b) The department shall not issue more than one set of special plates for any licensed Amateur radio station. (c) In addition to the regular fees for an original registration or renewal of registration, the following special fees shall be paid:

(1) Twenty dollars for the initial issuance of the special plate (\$21.00 for reflectorized plates).

(2) Twelve dollars for transfer of the special plate to another vehicle. (Effective January 1, 1983).

If you applying for the first time, be sure to take your Amateur license with you to prove you hold a valid license. It doesn't make any difference what class of license you hold, the only consideration is whether you planning to upgrade and/or change calls later.

Ham plates can only be issued to the registered owner or lessee of a motor vehicle and must be retained by the licensee when the vehicle is sold or the lease expires and the car is returned. Special radio call letter license plates may be used only on the vehicle to which they have been issued or transferred to.

Remember, if you sell or give your vehicle to someone else, you must remove your ham plates and keep them. Simply tell the new owner that you are required by law to maintain the plates and all they have to do is apply to the DMV for new plates. You must then contact the DMV upon obtaining your next vehicle and pay the transfer fee to have the paperwork and plates changed to the new vehicle.

You must agree to surrender the special plates to the DMV in the event your FCC license is revoked, suspended or expires.

If you haven't done it already, here's the information you will need to know in order to apply for and receive California license plates with your Amateur call on them.

Section 5005 of the California Vehicle Code (CVC) says...'' (a) Any person holding an unexpired Amateur radio station license issued by the FCC, may, after the requirements for the registration of the motor vehicle have been complied with, also apply directly to the department for special license plates in lieu of the regular license plates.

The special plates shall be affixed to

How to get a lookalike set of California ham plates for another vehicle

By Hartley Bush, N6TIV

In my travels I find that I run into other hams who identify me through the hams plates on my car. My wife kept telling me I should get my callsign on my pickup too. I explained to her that the DMV only allows one set of plates with your callsign on it.

After thinking about it for a while we figured out a way to do it. Apply for an Environmental plate (Section 5105 of the California Vehicle Code) with a slightly modified call.

So, I went to the DMV and applied for N6TIV-2 and in no time I received my new plates for my pickup. It's more expensive than the one time charge of



\$20 for regular ham plates with no renewal fee. The cost of the Environmental plates is \$35 with a annual renewal fee of \$20 which is tacked onto your regular registration fee each year. If you want to transfer the plates from one vehicle to another the cost is \$20.

Environmental plates are more expensive than the regular Amateur plates, but they are worth it. They look great!

Standard CTSS tones & designators

GROUP A

L1=67.0 hz
WZ= 69.3
WA= 74.4
L3= 77.0
YA=85.4
L4A= 88.5 (YB)
ZZ= 91.5
1Z=100.0
1B= 107.2
2A= 114.8
3Z= 123.0
3B= 131.8
4A= 141.3
5Z= 151.4
5B= 162.2
6A= 173.8
7Z= 186.2
7B= 203.5
8A= 218.1
9Z =233.6

GROUP B

L2= 71.9 hz
WB= 79.7
L4= 82.5 (YZ)
L5= 94.8 (ZA)
ZB= 98.1
1A= 103.5
2Z= 110.9
2B= 118.8
3A= 127.3
4Z= 136.5
4B= 146.2
5A= 156.7
6Z= 167.9
6B= 179.9
7A= 192.8
8Z= 210.7
8B= 225.7
9A= 241.8
9B=250.3



Editor's Notes

By Bob Pinheiro, WA6ZLO

Tandy's (Radio Shack) new Incredible Universe Store in Sacramento opened October 10, 1994. I believe this is the third store in the chain, the first was opened just outside Portland, Oregon and the second near Ft. Worth, Texas which is the home of the Tandy Co. These stores are billed as the largest electronic stores in the world and must be seen to be appreciated. The Sacramento store is located at I-80 and Northgate in the north Sacramento area.

Welcome to the following new members of *SARA*. KE6KUB, Andrew Farthing of Modesto. He is a Technician. KD6OVQ, Lucy Fontes, of Hilmar. Lucy is at Technician and her OM, Joe, is, WQ6W, an Extra. Ronald Rounds, KE6DXE, of Stockton, a Technician. Cam Davila, KE6MSH, of Modesto, a Technician. Welcome back to Bob Crawford, WD6CEV, of Modesto. Bob's an Advanced. *SARA's* membership now stands at 186 and climbing. If we hit 200, it will be the first time in the history of the club. Let's see if we can make it.

—If you are looking for a nearly new low band beam, here is an opportunity you should not pass up. Paul Caruso, WD6EYX, has donated to the club for sale, a Hygain 10-15-20 meters Super T-Bird 6 element beam. The boom is 24 feet long with an antenna gain of 9.5 DB. It's capable of handling a full kilowatt. This beam sold new for around \$700.00. Paul bought it nearly new a few years back and it's been in the box ever since. The club is asking \$400 or will take the best offer. Contact Paul evenings at 537-6659 in Ceres and make arrangements to inspect the beam.

—“Chicago” is the code name for super secret Windows 95 - the new updated version of Microsoft's best selling graphical user interface (GUI). It won't be available until next year and Beta-testers (sworn to secrecy) are putting it through its paces.

We understand “Chicago” doesn't rely on MS-DOS (with its 640K memory constraints.) Instead it uses its own inter-

nal 32-bit operating system. Reportedly, it also has a “plug & play” feature ...i.e. automatic installation and configuration of programs and peripherals. It is backward compatible to Windows 3.1 and MS-DOS and supposedly has an Icon for the new Microsoft “Marvel” on-line information service that is on the drawing boards.

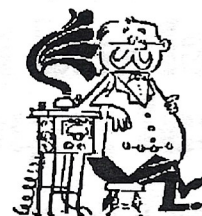
—Blockbuster Video recently merged with Viacom and it's new name is the Blockbuster Entertainment Group. Entrepreneur Wayne Huizenga bought the company in 1987 for \$18 million. When the company was sold last month for \$7.6 billion, Huizenga owned some 17 million shares of Blockbuster stock worth some \$700 million.

In the past seven years, Blockbuster's stock price has risen 4,000%...its market value from \$30 million to \$8.5 billion. Some people think he got out just in time now that video-on-demand is supposedly on the way.

—An interesting article in the October issue of Monitoring Times magazine tells how those high-tech NFL helmets work. You know, the one coaches use to call in plays to their quarterback. An automatic cutoff allows the device to be used only until the play clock runs down to 15 seconds. The transmissions are scrambled using Digital Voice Processing ...each team is assigned one of 268 million available encryption codes. Another new NFL electronics gadget that may be used next season is the Audibilizer. A wireless microphone worn by the quarterback can be activated by a chinstrap switch to broadcast to four banks of speakers if he is having trouble being heard.

—Again, a big thank you to all of you who participated in the 1994 fund raising raffle. Your support is greatly appreciated. The extra funds will help pay for this newsletter, liability and equipment insurance, and equipment procurement and maintenance.

Thanks also to the W5YI Report contributed to these notes. Have a nice Thanksgiving. 73, Bob.



SARA Technical Report

By LeRoy Campbell, NV6S

Progress has been made on the technical front over the past month. I managed to borrow a single cavity and installed it in the two meter repeater as a band pass filter. It has nearly eliminated the interference that has been plaguing us over the past few months. I've been able to take the repeater out of PL mode and have had good success.

I have since acquired a full set of duplexers that I will use that will provide cavities to be used for this purpose. I believe that two cavities will make the skirts of the receiver steep enough to eliminate the interference entirely. I plan to add a pre-amp to the repeater to regain sensitivity lost with the additional filtration.

I am planning a trip in the very near future to find the source of the audio problem and get the audio level restored to its proper level. Also planned as soon as we get a couple decent rain storms to dampen the ground, is a work party to install guy anchors and ground rods at our repeater site. I have extra tower sections that can be installed at that time to give us some additional mounting space.

Improvements in the auto patch are being explored but it is too early to make a report on that.

The 440 repeater seems to be working pretty well, but I'm still not happy with the sensitivity. The receiver is doing a good job and we now have hard line installed. Everything we have done has seemed to make a difference but something still seems to be missing.

We have recently been given an offer of a Phelps Dodge Station Master Antenna to try on the system. For those of you who do not know this is the Rolls Royce of antennas for a repeater. I plan to install it in the very near future and observe the improvements before we commit ourselves to the antenna.

These antennas sell for about \$1000 dollars new. I think the club will be able to get this one for a very minimal cost.

See "Tech Report" Page 11

Rhode Island man banned from local repeaters

A Rhode Island man is the latest licensed amateur radio operator ordered to cease operating on area repeaters because other hams accuse him of harassing several repeater systems.

Quoting FCC regulation 97.205 (e) in a letter to Edwin Barton, N1JBC, Michael P. Deignam (KDIHZ), trustee of the 441.750 MHz repeater in Providence, Rhode Island, has thrown Barton off his machine for what Deignam calls "numerous instances of malicious interference for which Mr. Barton shows no remorse and continues to deny publicly to this day."

In a related move, the members of

the Ocean State Amateur Radio Group, acting upon transmitter "RF fingerprinting and Doppler DF" evidence provided by several local amateurs, have thrown Barton out of their club and ordered him not to access the club's 146.70 MHz 2 meter repeater in Cranston, Rhode Island.

The evidence presented allegedly shows that over the course of several years Barton has repeatedly interfered with on going QSOs of repeater users he doesn't like personally and has attempted to crack the control codes of the repeater for malicious gain.

The Westlink Report

73 magazine may be history

from front page

the magazine— in which case it will be able to limp along for the foreseeable future— or the rest of the company will have to be cut to the bone so that the only operating business will be "73".

Cassidy said he did not think Green would sell the magazine because "Wayne is not a good enough business man to know what it is worth." I offered to buy it from him when I left. I had a cash offer prepared which was about twice what the magazine would be worth on the open market. He pretty much dismissed it and told me that he thinks the magazine is worth \$2 to 2 1/2 million."

According to Cassidy the advertizing coordinator Judy Walker was fired also. He called her one of the most skilled people in all aspects of the magazine business.

In a separate interview with W5YI Report, Ms. Walker revealed that Wayne is in serious trouble with the IRS, after allegedly not paying employee income taxes for two and one half years. She said the IRS had levied a fine of somewhere around \$350,000 against the company.

In response to the question- "How is everything going at Wayne Green Inc.?" Walker said "Right now, Wayne says all is well. And we are now going to

make a lot of money with CDs. [compact disc recordings- his music business.] The CD division is actually losing \$20,000 a week. He thinks it is going to make money...any minute now. They have no money to pay any bills. They pay the IRS and they meet payroll...and that's it.

They probably owe \$100,000 in just author's payments alone. They owe printers money. They owe for printing the August issue of Radio Fun (magazine). September and October are both sitting on the sidelines because he can not pay the August print bill. The November "73" is supposed to ship to the printer tomorrow.(September 22). That check has to be to the printer tomorrow to pay for that printing. If Quad Graphics out of Thomaston, Georgia does not get their check, they are not going to print.

"The August issue of Radio Fun was printed and mailed and the bill for printing and postage is due at Eagle Printing out of Massachusetts. They have not gotten their money yet. Subsequent issues have not gone to the printer because Wayne can't pay the printer. He has no money to pay them."

Walker continues..."I think Wayne is going under and he is fighting the best he knows how. And the best he knows how is to deny everything that is going on. He is running and hiding from a lot of bills." Asked if Walker felt their would be a December issue of "73"....."No, I really don't. The last thing I knew was that the authors were not going to write any more."

Big price hikes on the horizon

If you have been planning on buying a new piece of ham gear that is made in Japan, now may be the best time. Not because dealers are having any kind of ham radio super sale. Rather it may be the only way to avoid what could be the biggest price hike in all Pacific Rim manufactured merchandise ever to hit the United States.

Most hams— in fact most Americans are not aware that the cost of items manufactured outside of the United States is not directly measured in U.S. dollars. Rather, it is how much of another foreign currency a U.S. dollar will buy. When we talk about most of today's electronics, especially consumer electronics which includes most ham gear, we are talking about the Japanese unit of currency called the Yen.

Let's suppose that a piece of ham gear costs ten thousand Yen in Japan. A year ago, a United States dollar would buy about 125 Japanese Yen. Divide 10,000 Yen by 125 Yen to the dollar that eighty United States dollars would equal the 10,000 Yen needed to buy that piece of equipment.

But the United States dollar has fallen to a new all-time exchange low. Currently a dollar will buy only about 97 Yen. So if we divide 10,000 yen by 97 yen to the dollar, the eighty dollar piece of ham gear now cost \$103 United States dollars, an increase of about seventeen percent. And these are what we call base price increases that do not take into account the upward cost of excise taxes and import duties levied on almost all imports. Nor does it cover the higher import duty, state and city sales taxes that you will have to pay. If you add in all the real world costs, the actual increase is probably closer to 19 %.

Making matters worse is that the Japanese economy is in it's worst recession in modern times. Because of their

See "Big price hike" page 7

A fox in the police department's hen house

By Rick McClusker, N6UBJ

In September and October of 1993, the Sacramento Police Department was experiencing interference on several of its frequencies. The problem began with the theft of a probation officer's car. The car was recovered within hours, but the portable radio complete with a charger was missing. This radio was equipped with all of the Sacramento Police, Sacramento County Sheriff and various other law enforcement frequencies.

Shortly after the theft, the Sacramento PD began having problem with interference on its frequencies. There were never any malicious voices, just a carrier disrupting channels. The signal would also change channels. Often, these channel changes would occur when a major event such as a pursuit or robbery-in-progress was occurring.

For three weeks, the dispatcher would try changing channels and whenever the interference was heard, a warning was broadcast alerting the individual about violating FCC regulations and that fines and/or jail time would be the result of continued interference. None of the warnings had any effect on the interference. The FCC was contacted, but they did not have anyone available

to help with tracking down the violator.

The City of Sacramento assigned one of the technicians in the communications division to try and find the jammer. After several sleepless nights, the technician asked for more help. A call went out to the Sacramento Police Department's S.T.O.P. Amateur Radio detail, the Sacramento County Sheriff Department's S.H.A.R.P. Amateur Radio detail and in the Governor's office of Emergency Services assistant director of telecommunications, Stan Harter, KH6GBX. A very select group of hams with VHF/UHF direction finding skills was contacted to assist, with the emphasis on the need for secrecy.

A meeting was scheduled at the City of Sacramento 911 dispatch center to plan the search. At the meeting it was decided that the best way to find the jammer was with mobile and direction finding equipment and to mainly operate at night, when the jamming was most frequent. During the meeting, the jamming started again, and we hit the road headed for our assigned areas.

Shortly after arriving at our locations, the jamming stopped, and was not heard for the rest of the night. The second day, the jamming began about 4 PM. and was almost continuous. One ham sat in the back of the 911 center watching the LED lights indicating which receiver was picking up the signal, and alerting the rest of the team as to the area where the signal was. The only problem was that the signal was mobile! It moved several times to different areas of the city.

Around 9:30 PM., our state-of-the-art DF mobile van, (owned by the State Police) started to get strong indications of the signal being nearby. The signal was tracked out of the city in a northeast direction, and then started moving back into the city. I was manning a station in the control tower of the airport in the south-central area of the city and was able to get two or three good bearings on the jammer. Our mobile unit was getting a good bearing indicating that the jammer was somewhere between the two of us, but the signal was still mobile. The signal started getting stronger at the airport, indicating it was moving in my direc-

tion. Jim Hutchings, N6OZH, the operator of the mobile unit was getting a good bearing also. As luck would have it, the signal became fixed, and our mobile unit started to close in. Jim obtained several good bearings, narrowing down the area to two square blocks of the area just out of downtown, an old and prestigious residential area.

The word was passed to the Sacramento PD, and the area was quickly sealed off. As the area was being closed, the signal stopped for several minutes, and we had thought that the jammer was monitoring. As Jim started cruising the area, the signal started again, and more bearings were obtained, narrowing the area to a single block of homes. The police officers started to move in and seal off that small area.

About this time, bearings indicated one particular house! But there was a problem. Parked in front of the house was a Sacramento Police Department patrol car. The officer assigned to that unit was at lunch, at home. Later, he started to leave the area, but was stopped before he could do so. It seemed at first that the officer might be the jammer. His patrol car radio was checked, but was on a different channel. His portable radio was on the channel being jammed, and after a quick test, was determined to be causing the jamming signal!

The next day the Motorola portable radio suspected of causing the problem was taken to the local Motorola shop and tested. The problem turned out to be a pinched wire shorting out an IF can causing an intermittent keying of the transmitter, it was also shorting out the microphone so that very little if any back ground noise was being transmitted. The interference was not occurring all of the time, because periodically the defective portable radio was sitting in a charger in the squad room!

All of the hams involved received a very nice letter of thanks from Chief Arturo Venegas of the Sacramento Police Department congratulating us on solving the problem in two days. Isn't it amazing what hams can accomplish?

Thanks Worldradio Magazine

Big price hike

from page 6

economy is in a tailspin, the value of their currency is unstable. We won't go

So the big clue question is when will the downward spiral of the dollar in relation to the Yen end? That is not easy to answer since the best minds in the world of global economics are divided on it. Some thought the spiral had ended last fall when the exchange rate hit 100 only to be shocked back to reality a few weeks ago when 96 was the new record low. In other words, your guess is as good as the international money experts, and they are not venturing any real estimates right now.

Radio Amateur Newline

Special Achievement Awards

Official Ballot

Please write in your choice and return to the club no later than December 1, 1994. The winners will be announced at the December 20, 1994 SARA meeting.

1. Most improved member:

(Upgrading license/ improved operating skills etc)

2. Youngest new SARA ham of the year:

3. Best Elmer of the year:

(A SARA member who has donated much of his/her time to helping others enter ham radio and help them obtain their license.)

4. Best Volunteer of the year

(A SARA member who has contributed hours of his/her time for the benefit of the club.)

VE tests in Northern California

Location	Phone	Contact	Date
Chico	(916)342-1180	W6YKU	DEC 4
Cupertino	(408)243-8349	AE6Z	NOV 5/19 DEC 3/17
Fairfield	(916)791-0268	AB6EY	NOV 26 DEC 17
Fresno	(209)431-2038	W6DPD	NOV 20
Hercules	(415)467-2467	AB6AY	NOV 19
Jackson	(209)295-7947	WZ6Y	NOV 12
Modesto	(209)883-2968	W6XK	DEC 10
Monterey	(408)663-0701	WA6EOC	NOV 19
Novato	(415)883-9789	W6FCQ	DEC 3
Oakhurst	(209)683-8772	W6JTA	DEC 10
Oakland	(510)658-3652	N6VMK	NOV 20
Petaluma	(707)762-9414	WB6TMS	DEC 17
Roseville	(916)783-7610	W6SUP	NOV 9/23 DEC 14/28
Sacramento	(916)483-3293	AA6DJ	NOV 19 DEC 17
Sacramento	(916)393-8839	AB6OP	NOV 2 DEC 7
Sonora	(209)962-7146	NI6Z	NOV 12
Vacaville	(707)446-8376	KK6XB	NOV 26
Visalia	(209)734-9516	W6MUV	DEC 3
Yuba City	(916)673-0868	KB6EJ	NOV 5

Special Achievement Awards

Here is your opportunity to vote for that special member of the club who deserved to be recognized for his or her accomplishments during the past year in the four categories listed in the official ballot on this page.

This is the first time SARA has offered these awards, and we hope to make it annual affair. But, in order for it to be successful, we need your input. You may not be able to nominate someone for each category, but your nomination is appreciated even if is for just one category.

Give it some thought! Do you know a member that has worked hard to improve their skills. This usually involves upgrading their license, but, it is not limited to just that. Perhaps it's the effort they put forth whether or not they upgraded.

The youngest ham of the year will be determined by age and in the event of a tie, each member will be awarded a certificate.

The best Elmer of the year award is an opportunity to nominate that special person who helped you, or somebody that you know, get their license. This could be someone who help with a new license, or even an upgrade.

The best volunteer of the year can be any member that you feel had contributed many hours of their time for the benefit of the club or any of the many events we are involved with. If you give it some thought this award can cover many areas including, but not limited to, volunteering to provide help for the various bike runs and walks during the year; club projects, engineering tasks, newsletter contributions, net management, club leadership, etc. Use your imagination on this category. There are many deserving members out there, show them you appreciate what they contribute by nominating them.

The winners will awarded a beautiful certificate and those selected will be announced in **The READOUT**. Please take a moment to cast your ballot. Return the ballot by mail or in person no later than December 1, 1994. Good Luck!

FCC reviews VEC program

The FCC called 1993 the "most productive year yet" for the VEC system. The three reporting VECs, ARRL, W5YI and Central Alabama, coordinated more than 9,600 examination sessions accounting for almost 88% of the 193,901 elements taken during 1993. 113,028 people were examined at 10,848 sessions by these VECs.

The FCC said it received no complaints about a lack of examination opportunities and the VECs were outstanding.

In reviewing and correcting application forms before they were submitted for processing, the defective rate reaching the FCC was only 0.2%. The FCC said that although slightly less than 5% of applications are filed with the Commission later than the 20 days allowed, it believes that such delays will be eliminated when the Private Radio Bureau begins accepting electronically filed applications from VECs.

More cheating

The FCC said more cheating was uncovered in the VEC system in 1993 than in any previous year. The Commission took corrective action after licenses had been issued in an unprecedented number of cases. They cited 24 license grants to persons whose test results were certified by an impostor at 16 sessions in Texas. All of those licenses were re-

scinded and the VE team leader surrendered his licenses as a result.

At 25 sessions in California, the FCC said, "many of the examinees apparently had prior access to the telegraphy message." As a result, 59 people were ordered to retest under a different VEC.

Phantom sessions

Also in California, the FCC's report said, "on two occasions, a VE claimed to have administered examinations at two different sessions on the same day, traveling as much as 70 miles one-way between the sessions."

In the first instance, the FCC concluded that only one of the two sessions reported for that day actually took place. As to the second occasion, one examination session apparently did not take place, while the other session did take place but only seven people were examined rather than the 22 reported by the VEs. The FCC recommended that "all VECs be very selective when accrediting VEs, and refuse to coordinate any sessions for which it has reason to believe that the examination may not be administered correctly."

From the ARRL Letter

Tech or Tech-Plus?

If you hold a Technician class license issued before March 16, 1991, then you automatically are a Technician licensee with HF privileges, or in other words, a "Tech-Plus".

In some recent instances, the FCC has processed the renewal or modification of such a Tech-Plus license but has mistakenly issued a "Technician" (no-code) license. However, since June 8, 1994, new and renewed Tech-Plus licenses have been clearly labeled as such.

If this has happened to you, do the following: Write to the FCC, explaining the situation, including your current license status, with effective date. Include copies of both your "before" and "after" licenses. If you no longer have either a copy or the original of your previous license, say so in your letter.

Send this to FCC, 1270 Fairfield Road, Gettysburg, PA 17325-7245 (or fax 717-337-1541).

Keep copies of all your correspondence with the FCC. Expect the matter to take four to six weeks to be resolved. In the meantime, you may continue to exercise "Tech-Plus" privileges.

From the ARRL Letter

Early Bird Renewal

SARA 1995 Membership Application

Call: _____ Date _____

Name _____

Address _____

City _____ State _____ ZIP code _____

Class of License _____ Year first licensed: _____

Occupation _____ Member of ARRL? _____

Dues: Renewal full membership \$23.00. Student (up to Sophomore in college) and Associate (unlicensed applicant) renewal is \$12.00. Family rate is \$23.00 for the head of the household and \$12.00 for each additional member up to three. The fourth or more family member is free. Out of Area (more than 150 miles from Modesto) \$11.00.

TSARC ARNB



"A sign, about a half-mile back says "Blasting, no radio transmitting" ...Didn't see it, eh?"

From the desk of N6ZUC

J. T. "Tim" Low

One

of the antennas most used these days, is commonly called a groundplane. This name is kind of a misnomer, as the correct name would be a monopole. Sometimes it's called a quarter wave.

The term groundplane refers to the system of radials underneath it. Whatever you wish to call it is really not all that important. What is important, is that it is a very easy to construct antenna with good performance on just about any band you care to operate one on. On the HF bands these are also called "verticals", but for the purposes of discussion, I will simply refer to them as a monopole, no matter what band we're working on.

Benefits and tradeoffs

First off, what are some of the benefits and tradeoffs of the monopole? Ease of construction I've mentioned, and good performance too. In certain instances, the angle of radiation, which can be described as a benefit or a tradeoff, depending on its purpose, and perhaps the most important is its extremely broad bandwidth.

There are many sources for the directions on constructing a monopole for your favorite band, so I won't go into that end of it. Suffice to say, anyone, even with limited knowledge and skills, can construct one. No special equipment or tools needed.

Factors to consider

As I've discussed in past articles, there are certain factors one must consider when deciding on an antenna. Many people believe that the higher the gain figures for any given antenna, the better it is. This isn't always true. For instance in comparing the typical 5/8 wave antenna, to the quarter wave, the 5/8 will exhibit gain over the 1/4 wave monopole, but is it sending that energy in the direction you want it to go? Indeed, this is exactly what gain is. It is focusing energy in a given direction. No antenna ever made created power. All it can do is take the energy generated by your transmitter, and

delivered by the transmission line, and focus it in the direction you wish it to go.

"But Tim", you say, "both the 5/8 and the 1/4 wave are omnidirectional." Well, yes they are, but your not thinking 3 dimensionally are you? Propagation from these antennas is not only broadcast 360 degrees about the antenna, but also upwards by some degree, and broadcast vertically too. An oversimplified analogy might be doughnuts. The 1/4 wave having a smaller diameter, but very thick, and the 5/8 would be a bigger diameter, but not near as thick. The 5/8 signal is lower and flatter with respect to the earth, and the 1/4 wave is higher and fatter.

The signals are also radiated at some angle with respect to the earth. The five eights is a much lower angle, concentrating the radiated energy closer to the ground, and the 1/4 wave at a high angle, about 30 degrees. If the object is to hit a 2 meter repeater, high up on a mountain, at relatively close range, the quarter wave is by far the best choice with its higher angle of radiation. For hitting those far off repeaters, simplex, and that rare tropo opening, the low angle antennas, are the best choice.

Impedance

The typical impedance of the monopole is about 36 ohms, assuming it is cut to the proper length, and the radials are perpendicular to the monopole. At VHF/UHF frequencies, this can be easily matched to your transmitter by pulling the radials down to a 45 degree angle with respect to the horizontal, thus raising the impedance to around 50 ohms. A good match to any transmitter. It can even be done at HF frequencies if you have a tall enough support available for the length of the monopole, and the radials. You can also match the 36 ohms to 50 ohms using an antenna tuning unit. This is what is normally used by broadcast stations in the medium wave (AM) band.

Bandwidth advantage

The biggest advantage to the monopole is the incredible bandwidth it exhibits. In fact, a monopole, properly

constructed, can be used to cover both the 2 meter, and the 1.25 meter band, with under a 2.5/1 SWR. (I'm not going to debate whether a 2.5 to one match is acceptable, but I believe it sure can be.) A two meter monopole can also be used on 70cm, as it's harmonically related to the 2 meter band. (I use a 2 meter monopole for my twin band rig.)

How do you get all this wonderful bandwidth? Lets just say that the higher the frequency, the easier it is to do. The key is the length to diameter ratio of the radiator. The fatter it is, the wider the bandwidth. Ideal L/D ratio, giving the widest possible bandwidth, is when the L/D ratio is 5 to 1. At five to one, the bandwidth will be half the resonant frequency. For instance, if your design frequency is 100 Mhz, the total bandwidth is 50 Mhz, with 2/3 of the bandwidth above the design frequency, and 1/3 below. At 100 Mhz, the bottom end would be approximately 83 Mhz. At the top it would be around 133 Mhz.

A quick bit of simple arithmetic will tell us that for a 2 meter antenna, for maximum bandwidth, it'll be approximately 4 inches in diameter. That's starting to get a bit wide. Still not impossible, but of course for 2 meter operation, we usually have no need for that much transmitted bandwidth. By the time you get up to the 70cm band, it gets quite workable, with a L/D of approximately 6 inches long, and 1 inch in diameter. At this frequency of course the bandwidth is even greater. (Remember, 50% of resonant frequency. You can do the math.)

Because of the bandwidth characteristics of the monopole, you can understand why you don't really have to be all that careful when cutting the radiator for operation on 2 meters and up. At those frequencies, even using a piece of stiff 10 or 12 gauge wire, or brass welding rod, will give you plenty of bandwidth, and plenty of performance to reach up and grab those local repeaters. Why not build a few, and experiment a little. See how it works for you.

SARA Minutes

By Bob Pinheiro, Acting Secretary

The October 18, 1994 meeting of SARA was called to order at 730 PM by VP, Mark, WB6BJN. The President was ill. 37 members and guests introduced themselves. Mr. Ray Coyle of the Boy Scouts Explorer program was introduced and spoke briefly on the program and thanked the club for their willingness to sponsor an Explorer program for ham radio. WB6BJN said he was going to head up the club's participation in the program and planned to make several presentations at area schools. He asked for volunteers to help him out. The Explorer program is one of the many character building and leadership programs of the Boy Scouts.

The minutes of the last meeting were approved as printed in The READ-OUT. Treasurers report was given by Bob, KC6TVE.

September expenses	53.15
September income	538.48
Year to date expenses	\$3,376.69
Year to date income	\$3,688.09
Difference	\$ 311.14
Bank balance as of 10-18-94	\$2,458.29

TVE announced that the club sold

1,760 raffle tickets. Expenses for the raffle were estimated, pending final figures, to be around \$750 which includes the cost of the gun (prize) and the cost of printing the tickets. Ed Lacy, KA6CXR, sold the most tickets, 200. Ed was awarded a free membership in SARA for 1995 for his efforts.

Ernie, K6UVI, had nothing to report at this time on the communications trailer. He said he would try to get a progress report and get back to the club.

Chief Engineer LeRoy, NV6S, gave the technical report. (See details in his Tech Report on page 5). The club approved a request from LeRoy to reimburse him \$140.00 for a set of duplexers he recently purchased for use on the club's two meter repeater. He also requested funds to buy a preamp for the 2M machine. It was also approved.

A lengthy discussion followed concerning the problems of LIDS on the 2M repeater and the autopatch. It was mentioned there are two or three stolen rigs outstanding and that possibly the LIDS have them. The continuing vulnerability of the autopatch was discussed at length. It was learned that a sophisticated controller that would help alleviate most of the problems would cost nearly \$5,000.

LeRoy said the majority of the problem could be eliminated if we had a

telephone line on Mt. Oso we could tie our system directly too. This would do away with the links which cause the majority of the problems. LeRoy and Skip, N6ZAA, were asked to look into alternatives and report back to the club.

Derrill, WA6FBE, announced he had recently acquired some military surplus items that he would like to sell and donate a percent to the club. (See the list on page 2).

Stanislaus County Supervisor, Paul Caruso, WD6EYX, was present and introduced. He thanked to club for its support of the County's emergency preparedness program. He said he would also try to help in regards to possibly getting a phone line on Mt. Oso for the autopatch. Aaron Heffner, a student at Johansen High School, was introduced. He said that the school was forming a student ham club and hoped to have a low level repeater on the air at the school soon.

The drawing for the raffle ticket was conducted. The winner was Phil Gordon of Oakdale. (See story on the front page). Jim, N6UGH, agreed to be the chairman of Field Day next year. The meeting was adjourned at 930 PM and delicious cookies provided by Mike and Chris Camp, were quickly devoured.

Respectfully submitted by acting Secretary, Bob, WA6ZLO.

Tech Report

from page 5

The 220 repeater continues to be trouble free. The ten meter digi appears to have died. I haven't been able to work it for the past week. I will check on that on my next trip up the hill. The two meter node has been performing without fail.

The low level two meter machine is still in the works. The second set of crystals proved to be inoperative in the repeater so another set have been ordered directly from Spectrum, the manufacturer of the repeater. Those should be here about any day now. Our planned site has not been approved as of yet but it has not been disapproved. It still looks favorable. Should this one fall through we will be looking for another site. I really would not expect the site to

be a big problem to secure. A recent addition to our interference problems has been a couple LIDS. For those newer hams that may not know what a LID is, it's a poor radio operator. These particular LIDS have been heard using foul language and have failed to identify with proper call signs. PL mode has been successful in keeping one of the lids out of the repeater except when he manages to ride the squelch tail of someone else.

The other LID, who often appears to be mobile, still gets through even when it is in the PL mode. The most frequent offender is the one that seems to be taken out by the PL.

I apologize to those who may not have PL but this measure has been made necessary. When the lid decides to go elsewhere we will be able to get it out of PL mode again. Perhaps some direc-

tion finding may be in order.

If you should find the offender I would caution you not to make a direct confrontation with the party either on or off the air. Please make notations of the date and time and all pertinent information and refer it to the club officers for action. Tapes of obscene or unidentified transmissions may also be helpful.

Once again I wish to thank all who have helped in the technical chores. Alex, K6LPG, is to be especially commended. His expertise far exceeds my own and his assistance is very much appreciated by me. Tony, KD6YAZ, has assisted in mountain top trips as have others. KE6FSC, has been instrumental in acquiring the 440 MHZ Phelps Dodge Antenna. N6KMR donated the hard line that is now on the 440 Machine. 73, LeRoy.

STO, C



Calendar

- Nov. 6, 1994 Livermore Swap Meet 7 AM- 12 PM
- Nov. 12, 1994 VE Exams In Sonora 9 AM
- Nov. 15, 1994 SARA Monthly Meeting 730 PM
- Dec. 10, 1994 VE Testing In Modesto 9AM
Contact Chet, W6XK, 883-2968
- Dec. 20, 1994 SARA Monthly Meeting 730 PM
Special Achievement Awards presented and the election of 1995 officers will be held.
- Jan. 1, 1995 SARA Dues for 1995 are due
- Jan. 17, 1995 SARA Monthly Meeting 730 PM

SARA meets the third Tuesday of each month (except holidays) at the Stanislaus County Administration Building 11th and H Streets in downtown Modesto. The meetings are held in the lower-level conference room at 730 pm. Visitors and interested persons are most welcome to attend. SARA is an ARRL affiliated club and is also affiliated with the Stanislaus County and City of Modesto RACES/VARES programs.

The READOUT is mailed with a bulk mailing permit. Please notify us if you move as the Post Office will not forward bulk mail regardless if you left a forwarding address.

SARA repeaters on Mt. Oso at 3,300 feet- 145.39(-) MHz PL 136.5 Hz. 224.14 (-) MHz. 440.225 (+) MHz PL 136.5 Hz. KA-Node Digipeater (SARA) 144.91 MHz. 10 meter digipeater 28.103 kHz.



SARA Membership Application

Call _____ Date _____

Name _____

Address _____

City _____

State _____ ZIP Code _____

Are you a member of the ARRL? (Yes) (No)

Home Phone _____

Business Phone _____

Occupation _____

Date of Birth _____

Class of license _____

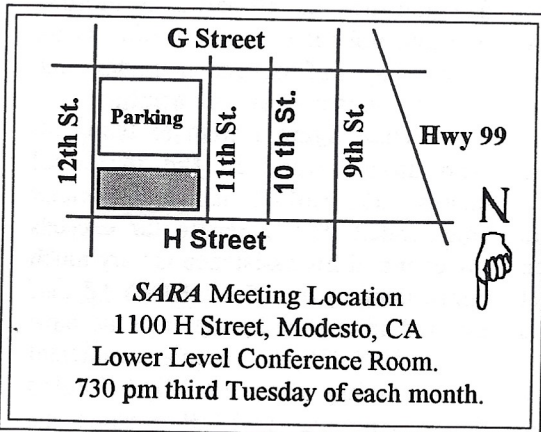
Year first licensed _____

Dues: Renewal \$23.00 per year. Out of area more than 150 miles from Modesto is \$11.00. New first time applicants dues are pro-rated from the month you join the club. Use \$1.91 times the number of months remaining in the year. ie.- You join in July- 6 x \$1.91= \$11.46

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

Address Correction Requested

Bulk Rate
 U. S. Postage
 Paid
 Permit 5
 Modesto, CA.



TO:

~~_____~~
~~_____~~
~~P. O. BOX 54~~
~~CELESTIA, CA 95307~~

Next SARA Meeting is Nov. 15, 1994 at 730PM & You're Invited!