

The READOUT

Year 15 Number 10 October 1993

The Official Newsletter of the Stanislaus Amateur Radio Association



SARA Two Meter machine PL'ed with touch tone override

By LeRoy Campbell, NV6S

The new PL® decoder and associated circuitry was installed on the two meter machine September 23. I also installed the new Diamond® brand dualband antenna on the 440 repeater and 2 meter back up repeater. Early reports are good for both machines. The two antennas we replaced we will be put to use on the communications trailer as it comes into use.

Once again, installing a PL on the two meter repeater was done for the sole purpose of reducing the intermod interference on Mt. Oso. It was not done to limit the use of the repeater. Therefore, the PL and override frequencies will be published and each user is encouraged to pass the frequencies along to anyone who needs them. The PL frequency is 136.5 Hz and the override code is * 5.

Here's how it works. For those of you with PL encoders in your radios, just set the tone to 136.5 Hz. For those of you who do not have a PL encoder, you can

access the repeater by using your touch-tone pad. Just transmit a * 5 which override the PL and turns the repeater on for 10 minutes. You can continue to use the machine as long as you want, but you will have to send another * 5 before the ten minutes are up, otherwise the machine will shut down and reverts back to the PL mode. You can put the machine in the PL mode by transmitting a * 6 when you are through.

SARA 2M Repeater Control Codes

PL frequency 136.5 Hz
Touch Tone override * 5
Touch Tone PL restore * 6

Again, the PL is only to cut down the intermod, not the use of the machine. Please let everyone know what the PL and override frequencies are. We would

See "Tech Report" page 4

FCC Rules on Scanner Ordinances

The Federal Communications Commission has ruled that states and municipalities may not enact ordinances forbidding amateur radio equipment simply because it receives frequencies normally reserved for police use.

On November 14, 1989, the American Radio Relay League filed a Motion for a Declaratory Ruling Concerning the Possession of Radio Receivers Capable of Reception of Police or Other Public Safety Communications. The laws referenced by ARRL prohibit the possession of such receivers if they are capable of the reception of communications on certain frequencies other than amateur service frequencies. On March 15, 1990, the FCC issued a Public Notice that asked for additional comment on the matter.

The League's motion discusses state statutes and local ordinances commonly known as "scanner laws," the vio-

See "Scanner Laws" page 4

In This Issue

The READOUT Facts	2	Operating in Mexico	7
You have found me my son!	2	ARRL Pacific Division Report	8
New Smart Battery	2	SARA Minutes	9
"Thin Air" realistic code trainer	3	TARC Auction Oct. 30	9
Digital Signal Processing	5	Party Line	10
From the desk of N6ZUC	6	Newsbriefs	11
"We are many, we are strong" ...	6	Calendar	12

The READOUT is published monthly by the Stanislaus Amateur Radio Association. © COPYRIGHT 1993 by the Stanislaus Amateur Radio Association, Modesto, CA. All Rights reserved. Permission is granted for reproduction in whole or in part provided credit is given to The READOUT and the authors of the reproduced material.

1993 SARA Officers

President

Sandra Ingram, KC6TBK, 575.4765

Vice President

Elizabeth Eyre, KD6GIW

667-5299

Secretary

Ernie Rader, K6UVI 838-2921

Treasurer

Bob Kimball, KC6TVE, 892-8664

SARA VHF Net

Thursdays @ 8 P.M.

(Except Holidays)

2 meters 145.39 MHz WD6EJF

220 Band 224.14 MHz WD6EJF

10 Meters 28,440 kHz USB

Tuesdays at 730 P.M.

ARES Net Wednesday 800 P.M.

Contributions to The READOUT are always welcome and may be submitted to the editor by mail or via packet at KD6JZZ-BBS on 144.79 MHz, or directly at my PBBS, WA6ZLO-1 on 144.97 MHz. The deadline for articles is the 15th of the preceding month. Articles regarding religion or politics are not accepted.

Editor

Bob Pinheiro, WA6ZLO

1221 Mist Flower Ct.

Modesto, CA. 95355

209-523-5880

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.

"You have found me my son!"

Not long ago, a young ham radio operator was walking along the beach sinking his toes into the sand when he felt a hard object with his toes. He stopped and dug up the object and upon lifting it from its hiding place he began to scrape the adhering soil from the somewhat crescent form. As it's shape became clear, the ham saw that it was an old oil lamp. As he began to rub away the remaining dirt, an immense cloud arose from the lamp in which the Mother of all Genies appeared. "You have found me my son and freed me from the lamp. As the Mother of all Genies, I will grant you one great wish, whatever it may be. Now be quick and tell me your wish, and I will make it so."

"Oh, great Mother Genie, I have but one wish, and it is that there be peace in the Middle East." "Oh, my son, said the genie, of all the requests you might have made, this is the one wish I am not able to grant. As there has been war in the

Middle East for 1,000 years and will continue to be war in there for another 1,000 years. I am not able to grant your wish!"



The ham persisted. Pulling a map from his pocket, he pointed to the countries of the Middle East and again pleaded that she grant his wish of peace for the troubled region. The genie said, "It is impossible to grant you this wish, but I will allow you to make another, which I will surely grant no matter what it might be."

Disappointed the ham said he understood. "You know genie, I am a ham radio operator and I wish I had a completely equipped ham station with all the top of the line equipment from the all major manufactures. That's my wish!"

The Mother of all Genies looked down at the ham operator and said, "Could I possibly look at that damn map again!"

New Smart Battery

By Bob Grissom, K17GN

Something new in battery chargers is coming to the market, and I don't mean the ones that detect the condition of a nickel-cadmium by looking for a voltage drop when it is fully charged.

A recent issue of the IEEE newsletter described a battery charger controller chip developed by a chemist in Europe, that will revolutionize charging of all types of batteries; nickel cadmium, lead acid and alkaline (maybe even lithium)! (Of course, I've misplaced the article and must work from memory.)

The controller causes pulses of current to be fed to the battery, and it monitors the battery voltage both during the current pulse as well as during the idle period. A profile, which is stored in the chip, of the correct charging pattern of the battery, allows the charger to identify

bad batteries as well as charge good batteries at optimum rates. It is stated that the controller will eliminate memory problems as well as extending the useful life of a battery by many times.

If you stay up late and play channel roulette, you may have seen the "Infomercial", hosted by Dick Clark, for an alkaline charger that appears to be using this technology. The potential benefits of using a rechargeable alkaline battery which has higher energy density and better voltage profile than a nickel-cadmium battery, make the \$50 dollar price tag an investment worth considering.

As with anything new, expect the price to stay high until the market starts to get saturated. If anyone has already purchased this charger, please let me know so that we can get a report to our readers.

Courtesy of Sierra Intermountain Emergency
Radio Association Newsletter, Minden, NV

"Thin Air"

Sometimes a Morse code trainer can be a little too realistic

By Joan Tanya Chopin, WA6BXT

Ed note: This story originally appeared in QST magazine in April of 1990. We received permission from QST to reprint it in The READOUT in May of 1990. We have had several requests to print the story again. Our thanks to QST for allowing us to do so.



Sam's social life was in a serious long-term slump. Work was becoming ho hum, and even his ham radio career seemed to be growing stale. He used to find relaxation by having spirited ragchews on the air in the evenings, but since 40 meters was so noisy he found himself fruitlessly calling CQ on 80, sometimes for hours, with no response. He could occasionally find a QSO in the Novice band, but he really didn't have much patience for QRS ragchews these days. Sam was becoming depressed.

One day, in the employee lunch room, one of his co-workers, Jerry, approached him with an idea.

"Hey, Sam, are you still into CW?"

"Yeah, but I'm not as active as I used to be. I've been kind of depressed and I've started watching TV and sleeping a lot."

"Well, maybe this will cheer you up. I've worked up a little something I'd like you to try out for me. I've been trying to get my code speed up and I built a little QSO simulator. It's more interactive than the other ones I've seen. I call it 'QSO Joe.' You're a CW man. I'd like you to try it out."

Would you?"

"Sure, it might be fun."

"Great. I'll bring it tomorrow. You can be my troubleshooter. Just keep track of the things you notice, good and bad, and let me know."

So, the next day Jerry brought in an innocuous-looking little black box in a paper bag. That night Sam took it home, plugged it in, and hooked up his paddle. He adjusted the speed setting and the dot and dash ratios according to the instructions Jerry had tucked into the bag. Also included was a note pad on which Jerry had written "Use this for taking notes. Thanks, Jer."

Sam poured a cup of coffee, kicked off his shoes, and sent a CQ. As soon as he was finished, he heard his call sign and realized the simulator was working. He gave the usual first-QSO information. The other station responded appropriately with a name, QTH, RST, and so on. To see how clever the program was, Sam asked a few questions of the artificial operator. He sent, "How old are you? BK" The reply was prompt. "Age here is 38. How old are you?" Sam was not expecting to be asked in return. He was impressed. On the note pad he put his first comment for Jerry. "No. 1: Impressive—asks questions in return."

Sam signed with QSO number one and called another brief CQ. Immediately his call was answered. This time the operator gave the name of Nancy. After exchanging the usual information, Sam decided to ask some personal questions of the YL. The answers were so appropriate that Sam had to keep reminding himself that he was really conversing with a silicon chip, a non-person, a thing, and not really a "Nancy." On his list he wrote, "No. 2: Sophisticated interaction." Sam signed with "Nancy" and went to bed, but he had difficulty falling asleep. He was thinking about the simulator, particularly about "Nancy." She had told Sam she was 29, divorced for two years, and had no children. She had been a ham for 12 years and really liked CW. It was hard not to try to imagine what she looked like,

yet she didn't really exist. Sam had to keep reminding himself of that.

The next day after work, Sam came home, grabbed a quick dinner, and went into his shack. Instead of turning on his rig or the TV, as was his usual routine, he went immediately to QSO Joe. He called one CW and, much to his surprise, Nancy answered. He began to go through the usual first-QSO ritual when Nancy interrupted him with, "Yes, Sam, I remember you." Sam was shocked and excited at this new level of sophistication. He added to his notes for Jerry. "No. 3: Yesterday's QSO remembered me."

Sam had a long QSO that night with Nancy. She was friendly and funny and asked him as many questions as he asked her. They talked about their families, their early ham days, and what sort of music they liked. She asked him about his job and told him about hers. It was awesome to Sam, and he was finding it more and more difficult to keep in mind that, as interesting as Nancy sounded, she was not real.

The next night when he came home, he went directly to the shack. He couldn't wait to see what QSO Joe had in store. Immediately, he heard his call sign coming from the speaker. He was being called by Nancy! When he answered, she said, "I'm glad I found you again, Sam. I have been thinking about you all day." On his list he wrote, "No. 4: Wow, Nancy called me, and "No 5: She likes me!"

That QSO lasted for many hours and the subject matter became more intimate. She talked about her loneliness and how he was making her happy by talking so long. She talked about her innermost feelings and how much she believed they had in common. She said she'd had QSO's with many hams in her 12 years, but never had such a warm experience as she had talking with him. For many days the same routine was repeated. When he saw Jerry at work, Sam was reluctant to tell him about it, fearing Jerry would want

See "Thin Air" page 4

"Thin Air"

From page 3

to take it back to see for himself.

"How do you like QSO Joe?" "Fine so far," Sam said. Then he hastened to add, "but I haven't had enough time with it yet."

"That's okay. Just keep track of any problems you find."

"Sure thing," said Sam. He realized he had found no problems so far, none at all, except that, even though he was falling in love with Nancy, she did not exist.

The QSO's with Nancy went on for weeks. Sam continued to put Jerry off so he could keep the simulator as long as possible. He spent many hours thinking about Nancy and wondering if she was a miracle, a fantasy, or just an enchanting glitch in Jerry's design. Their QSOs were so real it had to be a human being generating those words, a sweet, loving, real human being. He thought about her all the time and spent every evening talking to her.

One Thursday Jerry asked him to return QSO Joe so he could show it to a friend he was going to visit on the weekend. "May I have it back on Monday?" Sam asked, trying not to sound too anxious. "I'm not quite finished with it yet." Jerry agreed.

That night was sad for Sam. He told Nancy that he would not be able to talk to her on the weekend, and she seemed as distressed as he was. "When will we QSO again?" she asked with an almost perceptible sadness in her fist.

"On Monday," he assured her, "I will be back on Monday." And just before they said good night for the last time that week, Nancy said, "Sam, I just cannot exist without you." That night, for the first time in longer than he could remember, Sam cried himself to sleep.

The next morning Sam unplugged QSO Joe, put it in the paper bag, and brought it back to Jerry. As he handed him the bag, Sam reminded him that he hoped he could have it back on Monday.

"Sure, no problem I just want it for the weekend." That was reassuring to Sam. He just had to make it through the weekend, and memories of those wondrous hours with Nancy kept him going. He began to fantasize about meeting her. He decided that Monday he would broach the subject. Having been separated for the entire weekend certainly together they could find a way to meet, to touch, to exist. He was convinced now that she was more than a function of a simulator. It had gone far beyond the limits of electronics. Thoughts of finally meeting her were consuming him again and of arranging a meeting.

Sam rushed home on Monday night, QSO Joe in hand. He ran to the shack, plugged it in, and hooked up his paddle. As he started to send, he noticed the speed had been changed, which was no surprise because Jerry was a beginner. Then he noticed a difference in the keying. Sam had adjusted it perfectly. Why would Jerry have changed that? Sam reprogrammed it to his liking and anxiously called Nancy. No answer. He called again. In fact he called for hours and she never came back. The next night he tried again, and still no Nancy. Perhaps if he called CQ she would answer him and they could start again.

As soon as he completed the CQ he heard a response. His heart beat fast and he waited to hear the sweet music of her call. It wasn't Nancy. He sat stunned, unable to send. What to do? He called another CQ and then another. Each time he was answered, but never by Nancy. The next night he tried again to no avail. He managed to QSO some of those who answered him, hoping he would perhaps find Nancy with a different call. He talked to John, Ben, Tom, Jim, Pete and Ken, but no Nancy. It became sadly obvious to Sam that, by unplugging QSO Joe, Nancy was lost.

After two more torturous weeks of looking for her, Sam gave up. Remembering her last words to him, "I cannot exist without you," Sam sadly returned QSO Joe to Jerry. He didn't forget to include his list of comments to which he tearfully had added, "No. 6: Needs battery backup."

Scanner Laws

From front page

-lation of which may be a criminal misdemeanor with the possibility of equipment confiscation. Both New Jersey and Kentucky had laws on the books which prohibit the ownership of a mobile short-wave radio capable of receiving frequencies assigned for police use.

The ARRL also contended that many local ordinances throughout the United States similarly ban these radios without a locally-issued permit. "Scanner laws can render amateur radio licensees travelling interstate by automobile vulnerable to arrest and to the seizure of their radio equipment by state or local police."

Since the ARRL motion was filed with the Commission, both states changed their laws. New Jersey repealed its statute and substituted a new, narrowly tailored scanner law that only applies in the criminal context. Kentucky amended its statute by adding an exemption applying to amateur radio operators. As a result, there no longer appears to be any state scanner law with a detrimental effect on the legitimate operations of amateur radio service licensees.

Tech Report

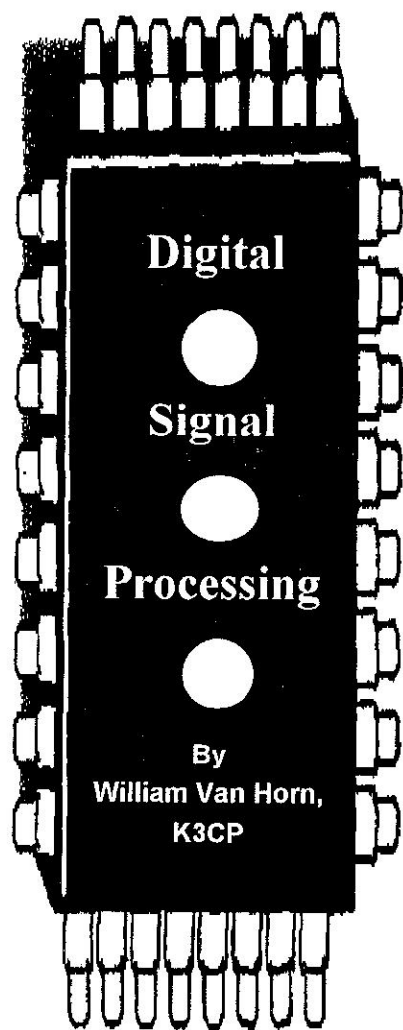
From front page

also appreciate hearing how the new antenna is working on 440 machine. It is a Diamond triband (2M-440MHz-1.2GHz) vertical. We are using the 2 meter and 440 functions and have a duplexer in use to allow both the 440 and two meter repeater to function together on the same antenna. Should we decide to put up a 1.2 GHz repeater in the future, this antenna will do the job there with the addition of a triplexer.

I thank the membership for being patient with me until I finally found the time to get this together. I still have much work that needs to be done on the hill and will work on that as time permits. I wish to thank those who have helped with the technical chores. It takes all of us working together to make things work.

Are you moving? Please let us know before you do. The Post Office will not forward bulk mail. It will be returned to us with a charge.

Technical Tip



"Hi Elmer," said Ima Lidd. "It's good to see you again. I am looking forward to continuing our discussion on DSP." "Hello, Ima," replied Elmer. "Yes, I will go into some detail as to what DSP means to amateurs and how it works."

The specific application for this discussion is in an audio circuit. The DSP is inserted between the 'phone or speaker jack of your receiver and the 'phones or speaker." Ima interrupted. "OK, but does it require power? If so, where does it get it?" "Good question, Ima."

"Yes, it does require filtered DC. The power may be supplied from any filtered DC power supply of the proper voltage." "To continue, remember that in order to digitally process an analog signal we must convert it to a digital one. This is done in a circuit called an analog to digital converter. To maintain reasonable fidelity the sample of the analog wave must be at a rate that is at least twice the highest frequency to be digitized. If we are going to digitize a signal from the speaker or headphone jack of a SSB receiver we would use a sampling rate of no less than 2 times 3000 Hz. Over sampling would be desirable but expensive."

"Let's take a QRM problem caused by one or more heterodynes on a SSB signal. The interfering signal is generally one of constant frequency while the desired signal is varying at the speech frequency (300 to 3000 Hz). The DSP filter identifies the QRM (because it's always the same frequency) and after digitizing it, removes it. Briefly, this is how it works."

Once a signal has been digitized, digits (numbers) are assigned to various spots along the wave form. These numbers will vary randomly in the signal in accordance to the audio frequency. If the heterodyne is a constant, say 800 hertz, the DSP will not transform it back to an analog signal thereby effectively eliminating it. "Now, if there are two or three interfering signals, this would leave sev-

eral holes or notches in the processed signal. This would cause distortion that could make the signal unreadable. To prevent this, the Digital Signal Processor will take several readings before each notch and several after and average them and use these averages to fill in the notches."

"I see," said Ima. "then the filtered signal sounds like the original one, but without the interfering heterodynes."

"That's right" said Elmer. "If you would tune your receiver slightly, the interfering signal would also shift in the pass-band and then the DSP would again eliminate it. "DSP can be used to create a very effective CW filter. For example, suppose we want to copy a CW signal from our receiver and that we want the note to be 750 Hertz and to reject any signal within plus or minus 100 Hz. We would program the DSP to reject any signal below 650Hz, and any signal above 850 Hz. This is very good filtering action."

We accomplish similar filtering by using crystal mechanical or SCAF (switched capacitance audio filter), but none of these methods produce filtering action with as steep slopes as the DSP. Also, ringing becomes a problem with other filter designs. There is no ringing using DSP."

Ima said "Wow, that sounds like a very good heterodyne and CW meter. Can DSP be used for anything else?" "Yes, it can. It can be used as a noise filter using the same techniques as we just talked about. It can be used on the transmitted signal as well. You could also eliminate the low frequencies in your audio to better cut through the pile-ups or shape your CW note to be as sharp or as soft as you like."

Ima asked, "Is DSP available to the average ham and how much would it cost?"

"Yes" replied Elmer. "It is available on some rigs, or as an add on. Its also available in kit form. The cost is between \$100.00 and \$600.00."

Courtesy of the W3OK Corral Newsletter of
the Delaware-Lehigh ARC

FROM THE DESK OF

Tim Low, N6ZUC

Before I get started with this month's topic, a personal note. I just read in the July **READOUT**, that my old amigo Edweirdo, kissin' after 6 crude and x rated (KA6CXR) recently walked the isle. While living in Ceres, I spent many a night rag-chewing about firearms, politics and one of my favorite subjects cooking/eating with Ed. Good luck old man, I'm happy for you.

Now, on to Ham radio. Here it is July, and I'm writing the October article for **The READOUT**, (that's the way it's done, normally). I just came through another field day last weekend. This years without a doubt was the biggest and best ever for me. For those of you who remain inactive for the event, let me admonish you here and now. If done with gusto, it can be an event of a life time.

I'm lucky enough to live in an area, and be a part of a rather large club that goes all out. The Palomar Amateur Radio Club has won the 5A category for the past two years, and it looks at the time of this writing, that we have a good chance at a three-peat.

A local Ham friend of mine, Tom, KJ6NA, who worked many a Field Day with some big clubs on the east coast, he's from New Jersey, said he had never seen a Field Day like the one he saw here. Several hundred Hams all working and

sweating in the hot southern California sun. The line up included a 20 meter SSB station, a 15/40 meter SSB station, a 10/17/80 meter SSB station, a 20/80 meter cw station, a 15/17/40 meter cw station, a packet station, a vhf/uhf station, a satellite station, and a novice station. Not to mention the solar powered CW station. All this clustered around a one million gallon water storage tank on a hill above Lawrence Welk village.

All stations used beams for all bands except 80, including two 40 meter monsters, and all mounted on portable crank up towers. There were motor homes and generators everywhere. The group kept the cook wagon busy, and one guy just keeping the generators fueled and running.

This year I was responsible for the 15/17/40 meter cw station. My crew and I were set up in an avocado orchard just across the road from the water tank. We operated out of a pop up tent camper that filled the bill perfectly. I don't think I've ever worked so hard in my life. But I did enjoy it so. My crew racked up nearly 1000 QSOs.

On Friday, the day before, we were setting up in 105 degree heat, with a humidity running between 80 and 90 percent. Hot? yes, and you can put any qualifier in front of hot you'd like, and you'd be right on target. When it all

came together Saturday morning at 11 am, it was worth it.

Granted **SARA** isn't large enough club to put on a show such as the one I just described, but you don't have to in order to have a great Field Day. Start making plans now for next year. Become active and you will enjoy the hobby so much more. The companionship of your fellow Hams, the competition, and the knowledge you'll gain from the experience will make it all worth while. While your at it, keep in mind what the real reason for Field day is. The purpose is to acquaint you with operating in emergency situations, so you'll be able to provide communications in the event of a disaster. You'll learn to set up and get operating when all other forms of communication may be out. This my friends, is the best reason for the continued existence of Amateur Radio.

I certainly hope someone will take the yagi by the elements next year, and get a good Field Day organized for **SARA**. Who knows, it might just give me a good excuse to take a trip to Modesto. I'd love to see some of my old friends, and enjoy a Field Day together.

Comments? Suggestions? Questions? Shoot them to me via packet at: N6ZUC @ KC6NZN.# SOCA. CA.USA.NA, or write me in care of **The READOUT**. 73 -Tim

"We are many, we are strong, and we snore!"

The next time your bedmate complains about your snoring, guys, explain that you're just scaring away wild beasts. According to Natural History magazine, a group called the Institute of Human Origins has speculated that male snoring is not a random noise but a clever defense system. "For our early human ancestors,

sleep proved to be one of the most vulnerable times of the day," the researchers say. "By mimicking the sound of their most common predators, carnivorous cats and hyenas, early humans could broadcast throughout the night. "We are carnivores, we are many, we are strong, and we are healthy!"

Courtesy of the Modesto Bee



Operating In Mexico Mexican Authorization Required

By Gordon West, WB6NOA

If you are planning a trip to Mexico, it is important to obtain an official Mexican authorization to use your equipment in this host country. Without the proper and valid Mexican paperwork, your equipment could be confiscated when you pass into their country, or worse yet, you could land in jail if caught operating a ham rig without their official paperwork in a local Mexican village or port.

The Mexican written authorization is not an official reciprocal operating permit. As of this summer, no reciprocal operating agreement formally exists between the United States and Mexico. Don't ask me why. I wish I knew because an official reciprocal operating agreement between our two countries would sure make licensing matters easy.

You cannot accomplish the Mexican radio authorization easily in the United States at their local embassy. Usually you must go into a big Mexican city that has an office of Telecommunication and Communications, abbreviated SCT. Use your local Mexican embassy to find out where the nearest SCT office may be near your planned border crossing.

You will need the original and several copies of your Amateur license, plus about 100 US dollars in Mexican currency, plus the original and a copy of your tourist permit for your upcoming stay in their country.

Since the tourist permit is only issued immediately before your stay in Mexico, this means you cannot accomplish your paper work months ahead of your planned Mexican trip. You must do it day a or hours before you actually plan to bring your gear into Mexico. I have seen many hams park at the border, go into town and obtain the Mexican radio authorization, come back out, and then cross the border with all of their equipment. This is a far safer way to go than venturing into Mexico without the permit in hand.

Southern California ham operators originally had to drive to Mexicali to accomplish this process. Things are now easier for them - they may now contact Oscar Rivera Hernandez at Ol 1-52-688-03191 in Tijuana, and get it all handled

just across the border from San Diego. It's about a half-day deal if you have all of your paperwork in order. It rarely can be done by phone at home unless you have "the right connections."

The Mexican license process requires patience, humility, and an adventurous spirit; it's much like a treasure hunt. Many times you will be asked to pick up various pieces of paperwork to complete the process - usually requiring a walk down to a bank for the deposit of your funds, a hike over to the tourist bureau for an official stamp, or something like this. As long as you go into this process realizing that you are a visitor in their country, things should go smoothly. Items like Kenwood or Yaesu wall maps, Icom ball caps, and other ham radio memorabilia many times have a profound effect on how quick you can end up with your written authorization.

What you will ultimately end up with is a typed letter authorizing you to use your equipment in Mexico with an XE, and a number of their district preceding your US call sign. No longer do they issue you a specific Mexican call sign.

If this were an official reciprocal operating agreement, rules are universal that you end up with band privileges only to the extent of what you would have in the United States. But Mexican authorizations don't spell this out because they have an altogether different licensing structure.

If you are operating within Mexican jurisdiction with a valid Mexican radio authorization permit, and use the assigned XE identifier in front of your US call sign, the United States Federal Communications Commission will not take action on your operation. Most recently, several US maritime mobile stations were issued notices of violation by the Douglas, Arizona, FCC monitoring facility for operating on frequencies not authorized by their US license - even though they were operating in Mexico. I contacted the engineer in charge, Stephen Tsuya, and indeed he verified that his engineer, Lany G. Minyard, had signed those notices of violation. In further investigation, we found that these US hams were forgetting to say the XE authorization in front of their own US call sign when operating in



Mexico. Since they omitted including the Mexican XE authorization as they stated their call sign, they were considered in international waters, and subject to US regulations. And even though these Americans may indeed hold the Mexican authorization, their failure to actually say the "XE" in front of their call landed them the pink slip.

Two interesting points here: If you are operating in Mexico, make darn sure to always say the "XE" in front of your US call sign and indeed keep your official Mexican paperwork handy for anyone who might challenge you. Secondly -exactly what privileges on the different bands do we have when operating within Mexican jurisdiction'.

Many maritime net controllers will not handle any 20M, 40M or 15M radio traffic from authorized stations in Mexico that do not possess a US General Class license or higher. Yet other maritime net control operators feel they have no right to question an authorized foreign station as to the privileges their! Foreign authorization allows, especially' if that foreign station is operating in a country with which we do not have a' reciprocal operating agreement. Keep in mind that we indeed have a third-party agreement with Mexico, so the big debate is whether or not a no-code Technician Class Mexican-authorized station could come up on frequency on 40M and pass traffic into and out of the US. My own view is to pass a US General Class code and theory test.

But most important is to always obtain a Mexican Amateur Radio authorization before you hit their town with your ham radio gear under your dash or poking out of your navigation station aboard your boat. With a Mexican authorization in hand, valid for the duration of your stay, and renewable as your tourist permit, you'll be operating legally in their country; a great way to stay in touch with other hams throughout the area, or throughout the world.

Courtesy of WorldRadio

ARRL Pacific Division Update

By Charles P. McConnell, W6DPD, Director ARRL Pacific Division. 1658 W.Mesa Ave. Fresno, CA 93711-1944. 209-431-2038. Packet W6DPD @N6ZGY. #CENCA. CA. USA. NA

Do you want to become a Ham? Call 1-800-326-3942). You will get how to information, a list of clubs, a list of instructors, and a list of volunteer examiners in your zip code area.

Do you want to take an Amateur Exam? Call the ARRL VEC hotline, 408-984-8353 for exam information.

AMATEUR RADIO SERVICE JOINT RESOLUTIONS. Staff members of many Senators and Representatives have told Perry Williams that their bosses will NOT endorse any resolutions unless they hear from you, their constituents. Their reasoning is that 'commemorative' legislation is getting out of hand. This resolution is more meaningful than most commemorative legislation, but because it bears the Joint Resolution label, it gets included with bills that seek "National Pickle Week" and the like. Messages from home will make the difference.

Please write your Senators and Congress person and urge support and co-sponsorship. For Senators you may send to the Hon. _____ U.S. Senate Office Building, Washington DC 20510; and for Representatives, to the Hon. _____ House Office Building, Washington DC 20515. Please send copies to Perry Williams, WIUED, at ARRL Headquarters.

H.R. 2623 THE AMATEUR RADIO VOLUNTEER SERVICE ACT OF 1993. The bill would amend the Communications Act so that no licensee who provides volunteer services specified in Section 4 (F) (4) of the Act (47 U.S.C. 4 (F) (4)) for the FCC shall incur personal financial responsibility for any alleged damage, loss, or injury. To be protected under H.R. 2623 the volunteer

must, of course, be acting in good faith and within the scope of his individual duties in volunteer examining or volunteer monitoring.

Please write your congress person (copy to Perry Williams of course) and urge the support and co-sponsorship of the bill. You may use the address given in the first item.

TRANSCEIVERS BAN LAW PRE-EMPTED. The FCC has granted, in part, a motion by the ARRL for a declaratory ruling asking the Commission to preempt certain state statutes and local ordinances affecting transceivers used by Amateurs.

The laws addressed (in PR Docket 91-36) prohibit the possession of such transceivers if they are capable of receiving on certain frequencies other than Amateur bands. The FCC said that state and local laws that make possession of Amateur transceivers in vehicles or elsewhere illegal merely because they can receive certain frequencies, the reception of which is not precluded by Federal law, are preempted by Federal law.

The Commission said that such local and state laws are inconsistent with the Federal laws promote and facilitate Amateur Radio. Notice that this refers specifically to transceivers, it does NOT mention scanner receivers.

NEW DISTANCE ON 902 MHZ. On August 23, 1993, at 0136 UTC KH6HME and N6CA set a new 902 MHz terrestrial distance record of 2469 miles, between California and Hawaii. The pair spent the next 4 hours trying to connect on 2304MHz, but they were not successful. They used 144 MHz for liaison. Way to go guys. N6CA and KH6HME hold several terrestrial distance records on VHF/UHF/SHF bands.

DON'S FORGET PACIFICON '93 October 22-24, 1993 in Concord.

FCC Fines WA4D Interference on 40M

Michael E. Whatley, WA4D, has been hit with an FCC Notice of Monetary forfeiture for 2,000 dollar(s). The commission denied a request from Whatley that it reconsider the Notice of Apparent liability it issued to him in November, 1992.

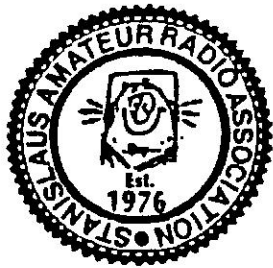
Whatley was accused of willful and malicious interference based on FCC monitoring on 7257 and 7258 kHz in late 1992. According to the FCC, Whatley asked the FCC's Field Operations Bureau (FOB) for copies of recordings of the transmissions in question and also requested a 30 day extension of time in which to respond to the NAL.

The FOB said it granted Whatley the extension and provided him with both the tape and a transcript of it. Whatley then argued that other amateur operators were interfering with his transmissions, that the transcripts are incomplete (not reflecting all communications which were recorded on tape), and that the parties to other communications on the band ignored his attempt to "compromise."

On August 20th, the FCC announced the monetary forfeiture order, the FOB saying "we have reviewed the record and affirm our initial findings."

The FCC said it was not persuaded by Whatley's arguments, and "further, Mr. Whatley's actions and communications indicate hostility towards the net members on 7255 kHz that were communicating, and do not support his claim that he intended to be conciliatory."

Although the base forfeiture amount for malicious interference is 7,000, dollar(s) the FCC set the fine against Whatley at 2,000 dollar(s) because he is an individual and has no record of prior violations. Whatley has 30 days to pay the fine. Courtesy ARRL Packet Bulletin



SARA Minutes

By Ernie Rader, K6UVI, Secretary

The regular monthly SARA meeting was called to order by President Sandy, KC6TBK at 7:30 PM on September 21st, 1993. Introductions followed as the sign-in sheet was passed around. Twenty-four members and guests attended. Treasurer's report follows:

Year to date expenses:	\$4,750.79
Year to date deposits:	\$4,602.42
Deficit:	\$148.37
August Expenses:	\$451.89
August Deposits:	\$236.00
Current Account Balance:	\$1,770.20

Secretary read three pieces of correspondence addressed to the club, and the minutes, as printed in **The READOUT**, were accepted as presented. The technical report was delayed until later in the meeting, and Sandy informed those there that her school schedule wouldn't permit her to attend the rest of the club meetings. Liz would be taking over in her place.

Ernie told of the progress on the communications trailer, and those at the meeting decided they didn't want to put carpet down for the flooring, but tile instead. Jim, N6KMR, who presently has the trailer, has purchased the 1/2" particle board for the floor, and will be installing it soon. He is also going to see if Lumberjack will give us a break on the price of the flooring.

Bob, KC6TVE, reported that if everyone that signed up to help with the Ri-

verbank Wine and Cheese festival bike-athon shows up, he'd have enough to provide adequate service. Ernie said he'd be contacting members by telephone for help with The American Diabetes Association Walktoberfest.

LeRoy, NV6S, reported that the 440 antenna is here and ready for installation. It's a dual-bander which will eliminate the need for the two meter Isopole that's there now. He suggested that the Isopole be used for the communications trailer. LeRoy said he has completed all the equipment needed for the new repeater controller. Soon the repeater will be PL'ed at 136.5 Hz. To deactivate the PL decoder for ten minutes, the command will be *5. The decoder will take over again in ten minutes unless the user wishes to activate it before then. If so, the command is *6.

It was reported that there was a great amount of jamming, swearing, and general repeater disruption recently. 911 was even brought up without bringing it down. Discussion followed about how to deal with that kind of thing, and Ernie was made a full control operator.

Under new business, Debbie, KC6YTI, asked if with the new regulations now in place, would it be permissible for those disabled members to be able to call Dial-a-Ride on the autopatch to see if their transportation were on the way. The club decided to investigate that activity

further before saying it was OK. Sandy suggested that Tom Hora of the FCC, be asked to speak at our next meeting to clear up this issue. She will contact him. It was moved and seconded to adjourn the meeting at 8:25 PM. Respectfully submitted, Ernie, K6UVI, club secretary.

New members picked up at the meeting:

Jerry Miller KC6TVI
1413 Kingfield Drive #A
Modesto, California 95350
544-2821 and he's a Tech.

Jeff Bradley KD6DFN
2832 Belharbour Drive
Modesto, California 95355
551-5506 and he's a Tech.

Jim Breitenfeld KE6AIS
325 Standiford Apt. 66
Modesto, California 95350
572-3047 and he's a Tech.

Dick Norby W6KET
908 Newcastle Court
Modesto, California 95355
523-3853 and he's Advanced.

Cyril Hartman WB7WAV
1937 Sequoia Street
Ceres, Ca., 95307
538-8344 and he's a General.

TARC Equipment Auction October 30th in Turlock

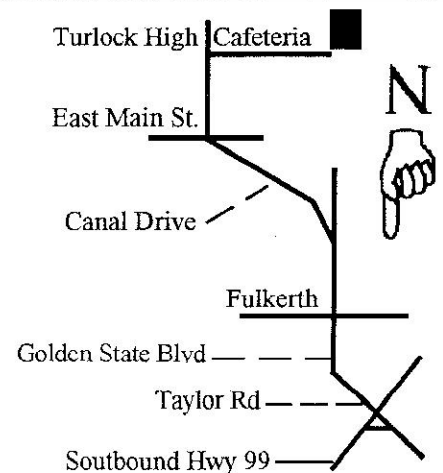
The Turlock Amateur Radio Club will hold an equipment auction October 30th, 1993 at the Turlock High School Cafeteria on Canal Drive, in Turlock.



doors open at 8 AM for inspection of the equipment with the auction starting at 10 AM. The auctioneer will be Grady Williams, K6IXA.

Equipment from the estates of two recent Silent Keys, including WB6MDN, will be sold to the highest bidder. The

Check the map for directions to the site and if you get lost, the talkin frequency will be 147.03 MHz.





Fallibility Department: It's DBLSPACE, not BACKSPACE, as erroneously reported in my debut column. The error is wholly mine, a product, perhaps, writing in haste. By the way, I am not the least bit adverse to admitting when I am wrong or acting rashly. I tend to be a bit compulsive and a spur of the moment type. The AX has egg on its cutting edge! I promised an attempt to run DBLSPACE, to test it out on a floppy, but the programme absolutely insists that I compress my hard drive before allowing other experiments. I have 43MB of free space at this writing with no real possibility of running out in the near future. As far as I'm concerned, DBLSPACE can wait until I become a desktop publisher or a commercial artist.

About the SARA net: The structure of our Thursday night net is rather traditional, so much so that I wanted to alter it rather radically. Some of my ideas were rather hastily thoughtout, and some of them, upon reflection, have changed. There is a reason why I have abandoned any attempt to axe roll call! Think about it for a moment. Roll call is the on-the-air equivalent of showing up at a club meeting. At meetings, we sign an attendance sheet and see one another, on the air, we respond to roll call.

The alternative to roll call is open check-ins. Unless the Net Control is physic or extremely swift, this usually results in multiple pileups as "stations whose suffixes begin with A through E" all attempt to check in at once, and so forth, down successive blocks of the alphabet! Sorting out the mess can be as time consuming as calling a well maintained roll call. I've got SARA Net

Records well organised now, with the help of a computer programme I've written. I use it when I call roll, and a bit of work just after the net is all it takes to prepare for the next net. September 9th's net closed at about 20:50 and by 2100 or so all of the check-ins and changes were archived on the floppy.

I recently got a letter from Ernie, K6UVI. Ernie offered me some invaluable advice on net management which I fully intend to implement. Kudos and thanks to Ernie, and by the time you read this, the results of Ernie's suggestions should be manifest. Want to be a net control? Call me at 524-1670 and we will discuss it.

The response to my request for feedback concerning SARA Net operation was not exactly thunderous, in fact, I got no feedback at all. Thus I will make no attempt really to change any aspect of net unless some a flash of inspiration strikes me late some night, probably on a Thursday.

(The dreaded!) PL: It may be unfortunate that one commercial marketing name of a technical method prevailed over another! The technical method in view is usually known as "PL" or Private Line® which is Motorola's name for the technique. General Electric called it Channel Guard® which in commercial and current amateur practice describes the intent of the inventors of "tone squelch". Our repeater will be "PL'd" fairly soon. The motivation for doing this comes from a desire to guard our repeater from intermod hits, and is NOT an attempt to restrict use of the repeater. Yet, objections may tend to be raised, and it seems that many amateurs equate a PL'd repeater with a private repeater whose users are anti-social creatures who only wish to talk to their cronies.

Twenty years, or so ago, when I was first on FM, this was true! A PL'd repeater was a private repeater, and given the technology of the day, virtually impenetrable! PL encoders on a chip simply didn't exist. PL was generated by sophisticated, little mechanical "vibrators" called PL reeds and these weren't readily available or cheap! Perhaps the stigma from those days lingers.

We haven't turned mean! We will be protecting ourselves from retransmitting garbage as best we can. Even with PL, systems aren't intermod

proof, but they are far less susceptible to "grunge". Leroy, NV6S, will be reporting on the actual implementation of PL; I am only attempting to provide perspective. Actually, PL can increase the effective sensitivity of a system for the simple reason that if the repeater cannot transmit unless it sees the correct tone, then the carrier squelch may be set quite loose, or for that matter even left open! All the better to hear HTs with! But, alas, since most PL decoders react rather slowly, the result is a tremendous squelch crash! The CDF repeaters, out of Mariposa County, on 151.46 Mhz., are set up this way, and this configuration does not seem to bother any of its users.

About THE PARTY LINE: This bit is finding both its place and its subject matter. Although I am not an utter novice at this sort of thing, I find myself in a certain state of expectancy. Ideas for topics abound in my mind, the pleasures/horrors of bicycle mobiling (I get around on a bike), "member profiles", Rules and Regulatory Matters, my (mis)adventures in programming, conclusive proof that amateur radio as a hobby is actually less expensive today than in the 40's in real economic terms. That's just four subjects that occurred to me in a few moments. If I ever do the economic one, I won't bury the reader in mathematical formulas. As for the bike, it once carried a full sized J-Pole mounted to its frame. The J-Pole had to come down, and is now permanently residing on Mark's, WB6BJN's, rain gutter.

Tribute: I was saddened to read of Claude Owen's, WB6MDN's, death. I met Claude 34 years ago, when I was six. We lived across the street from one another on San Juan Drive. In later years, our paths diverged and I lost track of him, but during the first few years of my amateur career, I spoke with him often, usually on 75 meters. If I may say anything about Claude, let me say that I found him to be a person of tremendous integrity; one could trust him. "Solid" is not a word often applied to a person, especially nowadays, but that's what Claude was, solid, decent. I suspect that integrity is one of those traits or virtues that is disappearing from the world, thus when a man of integrity leaves us, the loss is only greater. If I may, I wish him a belated "Best 73."

News briefs

In the World of Electronics

Cellular Phone take beating

Cellular telephones have been taking a beating in the British press lately, being blamed from bad calls to curtain calls. Tennis officials at Wimbledon shut off the electronic court sensors that normally detect out-of-bounds shots, due to RFI. In London, the opening of Andrew Lloyd Webber's new-musical, "Sunset Boulevard," was delayed for 13 days until technicians could find out why the hydraulic pumps on the scenery were turning on by themselves - cellular telephones were to blame again. *Telephony*, July 12, 1993.

Power Line Warning

Ask a group of helicopter pilots what their greatest fears are and one of the answers will probably be "power lines." Unlike broadcast towers and masts, power lines are not as strictly regulated in terms of illumination. McDonnell Douglas hopes to rectify that with their new power line sensor, which warns pilots when they fly too close. The sensor detects the magnetic fields induced by the high-voltage wires; if the lines appear to be in the path of the helicopter, the sensor alerts the pilot. Power lines up to 3.5 miles away can be sensed. Chopper pilots are always advised to steer clear of radio towers, and not just because of their height. There have been cases in which the powerful RF signals they emit got into the electronic guidance systems of some helicopters, causing them to crash because the pilots couldn't regain control.

Aircraft Engineering, June 1993

Smallest motherboard

The world's smallest PC-compatible motherboard is now available from Epson. Produced by SMOS Systems, the 386 motherboard includes VGA graphics, ROM and RAM on board - all on a space the size of a credit card! All external

devices, such as power supply, keyboard, monitor and disk drives, are added through several small sockets.

Videotape Pirating

Prerecorded videotape dealers have been screaming for years over their loss of money because renters borrow a tape, copy it, then return it without ever renting it again. Various techniques to prevent copying have tried and failed over the last few years. But a British company, Shapecourt Ltd., is trying out a new technique that involves planting a digital controller inside each videotape. The VPS System, as it is named, keeps the video signal scrambled until someone wants to rent the tape. At that point, the clerk commands the inside controller to descramble the video signal for however long the customer wants to pay: one day, two days, or three. If the tape isn't back by then, the controller scrambles the picture again! — *Electronics*, 23 August 1993.

New RFI Suppression filter

"Let us help you out or in," says a sign in a locksmith's store window. The same can be said for radio frequency interference - RFI. Keeping it from leaving the inside of your radio is just as important to your community as it is keeping it from reaching your receiver from the outside. A new type of interference filter in the form of a plastic like sheet is now being used by many engineering firms to fight RFI. Companies that manufacture this material claim up to 100 Db of shielding, at frequencies as high as 18 GHz! Soft and pliable, the shielding filter can be cut with scissors, positioned very exactly, and used just about anywhere. Perfect for hand-held equipment.

Enhanced Caller ID

Thanks to digital hardware and software, telephone users serviced by Illinois Bell in Chicago can now subscribe to a deluxe form of Caller ID. This souped-up version not only displays the number of the telephone calling you, but also shows you the name of the caller. If it's a business calling, the unit will say so. The information provided shows the name of the owner at the phone, not the person actually using it. (The technology isn't

quite that far yet!) If callers don't want their names shown in this manner, they can of course block it from view... not by paying a fee, but by dialing a special prefix before dialing the phone number.

—*Telephony*, July 12, 1993.

TV Sensor

Instead of sending the kids into the next room when the TV show gets too steamy or violent, viewers may soon be able to use a device and service that automatically blurs portions of the screen deemed too mature for younger audiences. VideoFreedom, of San Diego, says that the device works by use of data transmitted during the vertical blanking interval (VBI), which tells the add-on device exactly which portion of the picture to blur. VBI is also home to closed captioning and Teletext. In addition to pictures, bad language can also be edited out on the fly. A remote control comes with the device, so viewers can disable the unit if they so desire. VideoFreedom's unit works by means of a microprocessor based video and audio editing system, enclosed in a box very much like a cable converter. But instead of receiving editing commands from a control panel, it is told what to do by the incoming video signal.

Broadcasting & Cable, August 23, 1993.

Blood Sample Testing

About 2.5 million Americans suffering from diabetes must prick their fingers for blood sample testing up to five times a day. Doing so on a regular basis can get old after a while, and some patients either can't or won't do it as much as needed. Sandia National Laboratories has come up with new approach. Their device uses ordinary infrared light to literally "see" into a finger. An IR-emitting diode sends a beam of invisible light into the digit, and a sensor on the other side reacts to what it sees. Blood vessels and tissues either absorb or transfer the light, according to the frequency spectrum. While this system is still experimental, it promises to provide a safe, painless, and quick way of monitoring several other blood levels, including alcohol. A sobriety test could be done using this method, and would be much more difficult to beat. — *Aviation Week & Space Technology*, August 23.

Courtesy W5YI Report



Calendar

Oct. 2 Livermore Swap Meet 7AM- Noon
 Oct. 9 VE Testing in Merced 9 AM
 Oct. 16-18 Scout Jamboree-on-the-air
 Oct. 19 SARA Monthly Meeting..... 730 PM
 Oct. 22-24 Pacificon '93 Convention 3 days
 Hilton Hotel in Concord, CA.
 Oct. 20-31 CQ Worldwide SSB Contest
 Oct. 30 TARC Auction THS Cafeteria 9AM
 Nov 16 SARA Monthly Meeting..... 730 PM
 Dec 21 SARA Monthly Meeting..... 730 PM
 Election of 1994 officers

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\ARES 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.

Salli's
B — Budget
C — Copy
C — Center

High Speed Copying

Laminating Spiral & Velo Binding

Business Cards Resumes

Typesetting Public FAX machine

913 13th Street,

Modesto, CA

Phone

529-5395

FAX

529-6366

8 AM - 5 PM Monday - Friday

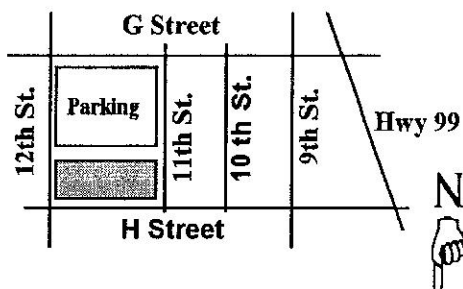
SARA repeaters on Mt. Oso at 3,300 feet- 145.39(-) MHz PL 136.5 Hz or * 5 to override the PL. 224.14 (-) MHz, 440.225 (+) MHz PL 136.5 Hz . KA-Node Digipeater 144.91 MHz. Ten Meter Digipetar 28,440 kHz

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:

SARA Meeting Location
 1100 H Street, Modesto, CA
 Lower Level Conference Room.
 730 pm third Tuesday of each month.



Next SARA Meeting is October 19, 1993 at 730 pm & You're Invited!