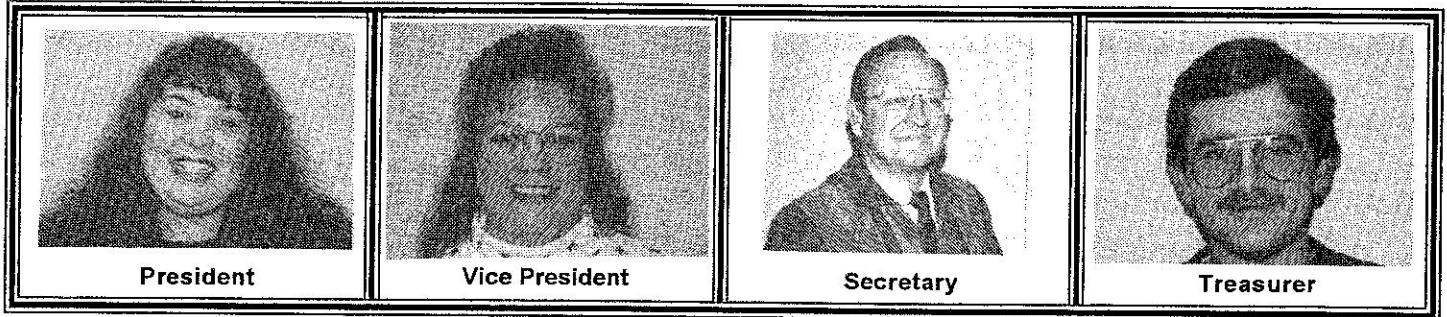


The READOUT

Year 15 Number 1 January 1993

The Official Newsletter of the Stanislaus Amateur Radio Association

1993 SARA Officers Elected



Sandra Ingram, KC6TBK

Elizabeth Eyre, KD6GIW

Ernie Rader, K6UVI

Andy DeGroot, KD6MOD

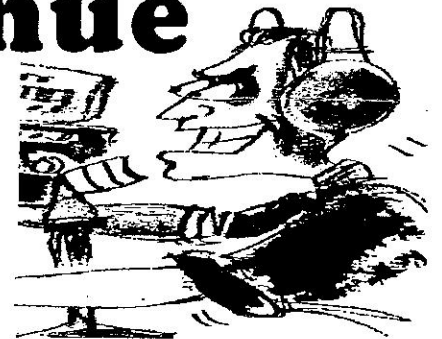
Mono Avenue Madman

By Tim Johnson, N8QXL

Part 2

Editor's Note...Last month Tim introduced us to the Madman of Mono Avenue, his neighbor across the street, and all the TVI complaints and threats he received shortly after getting on the air. His story continues.

When we last talked, the technician from the local Curtis Mathis



TV dealer had come out to my house and checked my television. He gave it a clean bill of health and told me the interference I was getting was coming through the cable system into my set. After he left I called Post Newsweek again. I told them what the Curtis

See 'Madman' page 14



Happy New Year

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Stanislaus Amateur Radio Association PO Box 4601 Modesto, CA. 95352

FCC NewsWatch



In response to three petitions that involve unrelated changes to the rules for the amateur service 222-225 Mhz band, the FCC has issued a Notice of Proposed Rule Making which:

—creates a small new subband where repeaters are prohibited;

—authorizes frequency privileges to the Novice Class operators in the entire band; and

—allows Novice Class operators to be licensees and control operators of repeaters in the 222-225 MHz band as well as in the 1270-1295 MHz segment of the 1240-1300 MHz band.

The American Radio Relay League (ARRL) requested in RM7869 that a new subband be designated at 222.000-222.150 MHz where repeaters would be prohibited, but where all other types of station operation could continue.

It said a small segment is

needed where experimentation can take place but where frequencies need not be shared with repeaters. While many amateurs believe that this matter should be decided by the local frequency coordinator.

The ARRL argues that protection of other types of operation from interference cannot be assured other than by regulation. ARRL also asked in RM-7868 that the frequency privileges accorded Novice operators be expanded to encompass the entire 222-225 MHz band.

It believes that Novice Class operators would benefit from such expansion because they would be exposed to routine types of amateur station operation other than repeater operation. As of November 1, 1992, there were 98,713 licensees holding the Novice Class operator license.

—A Lancaster, PA woman has been fined \$100, placed on two years probation and ordered to pay restitution to her neighbor for causing damage to his Amateur Radio equipment.

Linda Ann Van Aulen, 47, upset with RFI, deliberately cut two coax cables that was connected to her neighbor's equipment which caused over a thousand dollars in damage to his transceiver. Van Aulen was also fined \$100, placed on two years probation. This matter was handled strictly in local municipal court and the FCC was not involved.

—On December 1, 1992, Richard A. Burton, ex-WB6JAC of Harbor City, California, was convicted on all four counts of operating an amateur radio transmitter without a license. He will be sentenced on February 8th. This is his third conviction for unlicensed operation and he could receive up to 2 years in prison and a \$10,000 fine on each count.

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1992 SARA Officers

President

Sandra Ingram, KC6TBK, 575.4765

Vice President

Elizabeth Eyre, KD6GIW

667-5299

Secretary

Ernie Rader, K6UVI 838-2921

Treasurer

Andy De Groot, KD6MOD

892-3459

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 WA6KTK-BBS on 145.79 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.

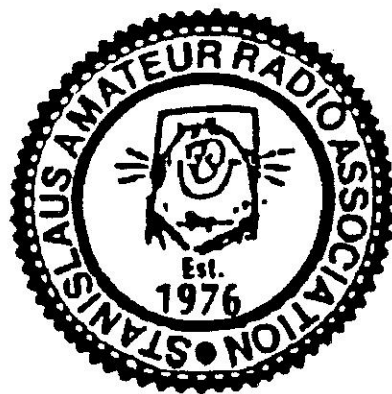
Modesto, CA. 95355

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**.

President's Corner



Club's first Woman President hopes for '93

By Sandy Ingram, KC6TBK

Welcome to 1993! For all of those who haven't heard yet, **SARA** has new club officers for 1993 and I would like to welcome the new cabinet. Elizabeth, KD6GIW, is now our Vice President; Andy, KD6MOD, has graciously accepted the tedious duties of Treasurer, and Ernie, K6UVI, has agreed to remain on as our Secretary.

I feel honored to be elected the President this year, and if I am not mistaken I am, I believe, the youngest, and first female to uphold this honor.

I have only been licensed for a year and 8 months and I have already been taken into the ham community

with open arms, and elected as an officer of the club.

As inexperienced at all this as I may be, I will do my best to provide worthwhile meetings and encourage our roster to grow as it has been. I also hope to bring you more speakers and work closely with the area's Emergency Coordinator (K6UVI) to try and schedule drills to improve our emergency and traffic handling skills. I hope I can count on your support in the upcoming year to make **SARA** a common name in the community and educate people about this wonderful hobby we all share.

Among the objectives I have for this year is to have a completed communications trailer ready for action. This project is currently being looked into. I would also like to see the club purchase some safety vests for use on our community events such as bike rides and walk-a-thons. We have two banners with our logo on them at our disposal as well so we can be more visible at public functions.

I would also like to try and do something at the Stanislaus County Fair this year, whether it be just an

information table or actually putting our skills to work helping find lost children. This project I am presently looking into and will report on at our first meeting of the year.

Some other ideas include having a special event station during Graffiti Fest '93 and finding new ways of raising funds for to the club.

The club class as of now is being taken over by Chuck KJ6DO and will be held in Oakdale. Further details on when the class starts will be announced as soon as the schedule is set.

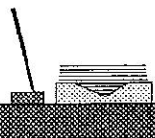
I am looking forward to a fun year and hope you are to. We have a great club with some fresh new ideas that I hope will make things more appealing to those who normally don't participate in club functions.

I hope you all had a wonderful holiday season and I look forward to seeing all your bright shining faces at our next meeting, January 19, 1993, as we ring in a new year for the Stanislaus Amateur Radio Association.

73, Sandy, KC6TBK



FROM THE DESK OF **N6ZUC**



Tim Low, Escondido, CA.

What the heck happened to 1992? Man this past year went by fast. I'm hoping it was a good year for you, as it was for me. With all that happened for me in '92', I'm really looking forward to 1993. It should be a good one. I thought I'd take this month and put together a few odds and ends that I think worthy of mention, but not enough to write about all by themselves. If nothing else, it will give me a chance to clean out some of these small scraps of paper that I write down ideas and notes on to incorporate into articles for *The READOUT*.

By the way, if you've come up with some ingenious idea or procedure that fits in nicely with the bobby, but don't want to write it up yourself, jot them down on a napkin or an old piece of junk mail, and send it to me. I might just get it in a future column.

AEA Hot Rod

If you saw last month's column, you'll recall my experiences in putting together a J pole for 2 meter operation. The idea was to build a quick and easy antenna. Since then I have hit upon what I think is the answer. This will be great for those of you with limited space, or just need an antenna that's not too obvious. I'm now running my packet station off an AEA Hot Rod ®.

The Hot Rod is an extendible antenna meant to put on your HT to provide it with increased range. It is a loaded 1/2 wave design, and a little over 3 feet long, fully extended. Being a half wave means it doesn't need radials. All you do is take a

piece of 3/4 inch PVC pipe, any length you want, and cut slots in one end with a hacksaw. These slots will allow you to use a hose clamp to compress the end. Find a double ended BNC socket, the kind meant to attach two BNC cables through a panel. Connect a length of RG-58 coax with BNC connector to the chassis mount connector, and slide the cable down through the PVC. Make sure it's the threaded end going into the pipe. Secure the connector in place with the hose clamp.

I then put a PL-259 connector on the other end of the cable, and used a barrel connector to attach it to some 9913 coax running into the shack. Use some large hose clamps to secure the PVC pipe to a roof vent pipe, or whatever you intend to mount it to.

At this point, simply plug your Hot Rod into the connector on top of the PVC, and you're on the air. The SWR on mine is almost unreadable. A very good match. In a head to head contest with my J pole, it is ever bit as good. It's also a lot lighter, will take more wind, and is harder to see up there. AEA claims it will take at least 25 watts, so there is no problem in running any normal amount of power to it. My packet station runs 10 watts, and so far so good. The only thing I may do yet to this arrangement is to slip a piece of heat shrink tubing over the entire length of the antenna, in an attempt to weatherize it. I'm not sure this is really necessary, but if you intend to leave it up permanently, it might not be a bad idea.

The AEA Hot Rod can be purchased from HRO or just about any Ham radio supplier for a little over a twenty dollar bill. The connectors are at minimal cost too. I've also put a connector on the end of another short piece of PVC, to use with my hand held. In fact, this is how I got the idea of putting one up on the roof. I use this to raise my antenna above the crowds to get a little more distance when working

events such as parades and the air show. It's nice and light, and easy to hold up.

Foot Switch

For those of us who are getting, or have gotten very lazy, and don't want to spend big bucks, (cheap), Radio Shack has a nice little item. Page 62 of their latest catalog shows a foot switch meant for operation of a recorder. The part number is 44-610. I use one of these on my HF station. That gives me hands free operation when exercising my vocal cords and need my hands for writing or drinking coffee, (yeah, right, coffee). This would be great for field day or contesting. I've used mine now for over a year, with no trouble at all. Not bad for a three dollar and sixty nine cent investment.

Installing PL259's

Something that comes up from time to time is the best way of putting PL-259 connectors on RG-8U coax. There is basically two schools of thought. Those who solder the shield, and those that don't. I'm one of the latter. I know this will raise some eyebrows, but I don't think that soldering the shield through those little holes in the body of the connector adds any integrity to the connection. A little lead and tin, just isn't as good as a good compression fit.

I simply unbraid the shield, fold it back over the jacket, and screw the connector on. I hear all the time, complaints that this will allow corrosion to set in, and ruin the connection. Two comments on that. One is that I've taken connectors off that have been on for years, and the places where the threads touch, are just as shiny as the day they were put on. Yes there will be some corrosion between the threads, but the connection is still sound.

If the connector is outside, you should be using coaxial cable sealant on it anyway. This sealant tape is available at Radio Shack. You should put a boot over the outside connector too. A package of 5

See 'N6ZUC' page 5

From the Desk of N6ZUC

From page 4

vinyl boots, with silicone grease, from Cushcraft, is sold at HRO, and I'm sure other places as well. Sorry, can't remember what I paid for them, but it wasn't very much. I'm also now using an electrical joint compound on the braid before I screw the connector on. It does two things. First it makes the connector screw on easier, and second, it fills the gaps between the threads, and prevents corrosion there. It will help to keep moisture from seeping into the connector too.

It comes under different names, such as Nalox and Penetrox, and can be bought at most places that sell electrical supplies. By the way, this stuff is great for putting between connections of antennas, such as between the sections themselves. It'll prevent corrosion, and won't insulate. Pick some up and give it a try.

Elmers Glue

For added security against moisture, I also fill the holes in the connector body up with Elmers glue. When it hardens, there's no way water's going to get into the connector. That's it. I hope you'll get some use out of this information. If you have any comments, or need clarification, drop a packet to me at: N6ZUC @ KC6NZN. #SOCA.CA.USA.NA, or write me in care of **The READOUT**.

73 -Tim, N6ZUC

INTER OFFICE MEMO

Dear SARA Member :

A reminder your dues are now due and payable. We appreciate your past support and solicit your future support. This is your club, please support it. Mail your check or Money Order to SARA PO Box 4601 Modesto, CA. Thank You.

Programmer's Retreat BBS

We inadvertently left off the BBS list that appeared last month in **The READOUT** the Programmer's Retreat BBS and Information System. 526-9987 110-2400 bps N-8-1. This system, operated by Brad Johnson, KC6TDH and Sandy, KC6TBK, was Modesto's first 2400 bps system, and has been on line over seven years using home-rolled software.

The system supports all computer types and includes ham radio files and message sub-boards. A graphic section is available with over 250 graphics in the GIF format. There is also a section with packet radio BBS messages.

For quick, and free access, use RNI as your pass word. If you are a Amateur Radio operator use "TNC" as your pass word.

Effects of RF on Human Tissue

With more and more hand-held VHF/UHF RF devices such as cellular telephones and transceivers reaching consumers, more research is under way to learn more about the effects of RF upon human tissue.

The current ANSI specifications recommend that near the eyes, RF output below 1.5-GHz of seven watts or less is safe. Some scientists think that this belief should be reconsidered. What makes it tricky to rewrite the rules is there are no cut-and-dried borders of safety. Some evidence suggests (but doesn't prove) that tissue damage occurs only at specific frequencies and amplitudes. This is not easy to confirm repeatedly. W5VI Report

Sunspot Cycle 19 years Theory

In an interview for the November 1992 issue of *Discover* magazine, solar physicist, Richard Altmock, says the 11-year sunspot cycle, really doesn't last that long; instead, the cycle is actually 19 years. He says the 11-year visible Sunspot cycle is just the visible result of an invisible 19 year magnetic cycle on the sun.

During a sunspot cycle, the number of sunspots intensifies and they grow larger. Using proper filters or projection devices, a telescope allows us to view sunspots safely.

Sunspot activity begins at approximately solar latitude 30 degrees and gradually increases toward the solar equator, but as soon as these spots die off the process begins at 30 degrees again.

When this cycle begins, the 11-year cycle is said to begin. But, Dr. Altmock maintains that the start of this cycle means that magnetic activity in the corona (the solar atmosphere) has already been circulating for eight years. He says that he has traced coronal halos appearing eight years before sunspot cycles and these halos show up at latitudes as high as 70 degrees to 80 degrees. The following years show them closer to the equator. W5VI Report



Moving?

Please notify **SARA** before the move. **The READOUT** is mailed with a bulk mailing permit and the Post Office will not forward Bulk Mail.

FCC Nets Florida Sea Going Ham Pirate

Officials from the U.S. Coast Guard and the FCC's Vero Beach, Florida Field Office, have stopped, boarded and shut down an unlicensed amateur station operating in Florida waters aboard the fifty foot wood-hulled sailing vessel, the Baltija. The Commission originally got involved due to complaints from the Amateur community about transmissions from a station using the call sign KD4VQ.

The ham pirate, later identified as Peter Skujins with no known home address, lived aboard his vessel. Skujins, who used the name "Gil" on the ham bands, apparently had been operating illegally on 20 meters for some two years. The FCC's monitoring network had long believed the station was operating from a boat due to its triangulated signal position placing its transmissions at various locations along the Atlantic coastal waterway.

According to the FCC they caught him right at the Coronado Bridge in New Smyrna Beach getting ready to go through the draw bridge.

The boat was equipped with a Kenwood TS-440 Amateur rig which the operator was not licensed to operate and HF whip and dipole antennas. When the transceiver was turned on, it immediately came on at 14.313MHz. The FCC also found that the operator had an expired Marine Radiotelephone license.

The FCC did not have a search warrant or a seizure order so the equipment was not confiscated. Skujins refused to answer any questions about the KD4VQ transmissions. By press time, the FCC had not released information on their future path of action.

Peter Skujins was directed to telephone the FCC Field Office in Vero Beach once he got to his destination and to have some means by which he could receive mail. If Skujins fails to obey, then he will be apprehended by the Coast Guard.

The call KD4VQ was originally assigned to a William A. Hiott of Anderson, S.C. who is no longer licensed and may even be a silent key.

Excerpted from W5YI Report.

Fastest Semiconductor

What is the fastest three-terminal semiconductor device in the world? It's called the Modfet (Modulating Field-Effect Transistor). It can perform well at 60 GHz, and 400 GHz batches are in the works. It features a low noise figure of 0.5 dB, which means it adds very little noise to an incoming signal.

Because it is much more sensitive than ordinary devices, using it as an RF detector means you don't have to build an antenna as gigantic as usual. It works especially well at low temperatures. Who knows? you may soon be installing a Modfet in your shack to get onto the microwave circuit. W5YI Report

VE Exams

The Tri-County VE Team sponsors Amateur examination sessions monthly in either Stanislaus, Merced or Tuolumne Counties. Test fee is \$5.60 (except Novice). Bring the original and a photocopy of your ham ticket and any CSCEs in your possession. 610s provided by the team. All materials returned to the ARRL/VEC via Air Express to ensure prompt issuance of licenses.

Schedule for 1993

Date	Time	Location	Contact Person	Phone
1-19	9 am	Turlock	W6XK	(209) 883-2968
2-13	9 am	Merced	KI6PR	(209) 383-2166
3-13	9 am	Modesto	W6XK	(209) 883-2968
5-8	9 am	Turlock	W6XK	(209) 883-2968
6-12	9 am	Modesto	W6XK	(209) 883-2968
9-11	9 am	Modesto	W6XK	(209) 883-2968
10-9	9 am	Merced	KI6PR	(209) 383-2166
12-11	9 am	Modesto	W6XK	(209) 883-2968

All sessions accept walk-ins (pre-registration is not required) and will offer examinations for all classes of license. Phone the "contact person" for specific details regarding location or changes.

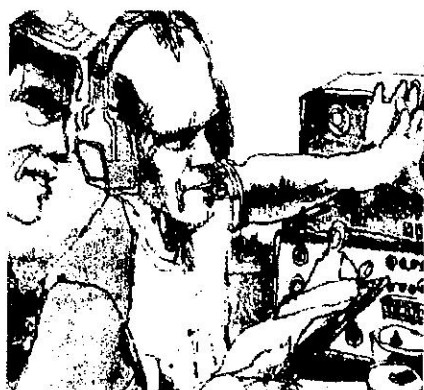
"On The Air" Frequency Chart

The 1993 issue of our Amateur Frequency Allotment Chart is included in this issue of *The READOUT*. It's offered as an insert which makes it handy to remove from the newsletter and place at your operating position. We hope you find it useful!

The chart was designed and produced by Bob, WA6ZLO, with the assistance of Chet, W6XK and Chuck, NW6G, who checked it for errors. As

far as we know, it's correct! However, when your dealing with large amounts of data you can, and will, make mistakes. If you find any, please let WA6ZLO know so we can correct them as soon as possible. He can be reached on packet at his personal BBS WA6ZLO-2 (145.79 MHz) or via WA6KTK-2 BBS in Manteca. Or write to him at his home address appearing on page 2 of each newsletter.

On-Scene Emergency Communicating



A good emergency communicator can get back onto the local and worldwide airwaves FAST after an emergency.

By Gordon West, WB6NOA

Those two recent hurricanes in Florida and Hawaii underscore the importance for every ham to be well-prepared to handle on-scene distress calls. And while it's advisable to take advanced training in emergency message handling from groups like RACES, ARES, and the American Red Cross—it's important to know that you can be an effective emergency communicator taking on the lessons learned during the last two hurricanes.

A good emergency communicator can get back onto the local and worldwide airwaves FAST after an emergency. Here is where a mobile or base station that runs off of 12 volts really shines! (in more ways than one) Just add 12 volts from any vehicle, destroyed or not, and you are back on the air. I like the little 12-volt gel cell (7 amp hour variety) because I can plug it into a vehicle's cigarette lighter plug, and "float" my 12-volt transceiver.

Some vehicles were so badly damaged in the past hurricanes that the ham operators couldn't get at their batteries. The hood just wouldn't open.

But guess what—most of the vehicles still had their electrical system intact, and on most vehicles the cigarette lighter receptacle usually remains "hot" even though the vehicle is turned off.

For coax cable for your antenna system, you could quite easily get by with 72-ohm cable TV coax. In an emergency, the slight mismatch will still let you get on the air. A simple dipole is easily fashioned out of any downed wiring, and just remember the formula 468 divided by the frequency in MHz, and this is all the wire you will need for a particular band. Cut the wire in half, and attach the one-quarter wave length to the braid of the coax in one direction, and the other one-quarter wavelength of the wire to the center conductor of the coax and run it in the other direction. Get it up off of the ground by at least a half a wavelength, and you are on the air with a resonant dipole for a single band.

On the 2-meter band, 18 inches of wire jammed in the back of your mobile transceiver will do quite nicely. Go through the memorized channels in your set, and see if you can find a repeater that can get you good coverage for the devastated area you are in. Hopefully it will give you enough coverage to get to someone outside of the area to be able to handle emergency traffic for you.

On the worldwide bands, come up on a band—such as 15, 20, or 40 meters—where you hear activity. If you are one of the first stations on the air, break into a conversation using a triple

See page 8

On-Scene Emergency Communications

From page 7

break which signifies life and death emergency traffic. If you can't break into the net, chances are you didn't get your antenna system up properly, and look and see what's going on with your wires. If they're coming in over signal strength 7 on your worldwide set, you should surely be heard with a triple break.

If you are one of the first on the air, the 20-meter band is a great place to get some help over long range, and your antenna requirements are only 16 feet of wire on each side of your dipole. 14.275 MHz is a common meeting spot for widespread disasters. This frequency is monitored regularly by members of the International Amateur Radio Network (IARN), and these eager-beavers are always on the prowl for any disaster that they can offer assistance.

If you're in the disaster area, first handle outgoing traffic. You'll get many calls from other hams wishing to inquire about a certain street address inside the disaster area, and is the house standing or not. Unfortunately, your priority is outgoing traffic, not incoming inquiries.

As you begin to receive outgoing messages where the typical message is, "We are okay; do not worry. We will call as soon as telephone service is restored. Don't worry," signify this as simply ARRL message ONE. you will find a list of ARRL numbered radio-grams in the back of the ARRL radio station log book.

During the last two emergencies, some pieces of outgoing traffic were taking as long as 2 or 3 minutes to pass in their entirety! Yikes, this is

nuts—you should be able to send a complete outgoing message, by voice, in less than 30 seconds. If the operator at the other end of the circuit can't take it down, that fast, then suggest someone else come in to handle the communications more efficiently.

If you have digital communications for H.F. or VHF, all the better. This way, numerous stations can help you out. So, are YOU ready to handle it when the big quake hits? Do you have the back-up equipment that can be run truly portable to get you back on the air



**Check In to the Stanislaus
County ARES Net
Wednesday nights at 8 pm
145.39 MHz.**

within minutes after the shaking stops? Do you have a small 6 or 7 amp hour gel cell battery to act as a buffer between your H.F. rig and an alternate source of 12 volts? How about a simple vice-grip type of H.F. antenna mount to clamp onto anything metal to use as a ground plane for your mobile whip? That's a great way to get on the air without having to find two trees that are still standing to stretch a dipole.

Remember, if you're in the middle of the disaster area, you don't need to be a member of ARES or RACES to take part in out going emergency communications. But then again, joining either of these organizations, plus the American Red Cross, wouldn't be a bad idea, either!

Tnxs The Intermod , WCARC

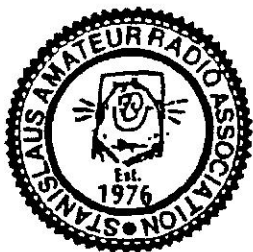
Club Station and Military Call Signs Coming Back

Call-signs for Amateur Radio clubs and Military Recreation Stations will soon be available under legislation recently signed into law. This law allows the FCC to seek the assistance from a non-profit organization—such as the ARRL—in the implementation of the program. Announcements will be made on the start date of the program. Do not send your form 610-B for a club call-sign yet. Call-signs will come from a block of call signs currently being used, perhaps Group D. Clubs will NOT be able request a specific callsign.

Don't Cover Both Ears

Lightweight stereo earphones are just what the doctor ordered for use with your rigs in the mobile. They are light and comfortable and have excellent quality. A word of caution though, if you are the driver, the law says you can cover only ONE ear. Section 27400 of the California Vehicle Code prohibits covering both ears with "headsets" or any "earplugs" while driving. So, use only one ear. Certain emergency vehicles are exempt from this law.





SARA Minutes

By Ernie Rader, K6UVI, Secretary

The December 15, 1992 meeting was called to order at 734 P.M. by Vice President, Sandy, KC6TBK. 24 members and guest introduced themselves followed by old business. The treasurer, Rita, KD6BNV, reported those members who ordered T-Shirts with the club logo, can contact her and pick them up. She also has club badges to be picked up for WB6MGT and WA6FBE. The minutes of the November meeting were approved as printed in *The READOUT*. The treasurers report follows:

Beginning Balance: \$1,260.22
 Deposits: 602.75
 Expenses: 327.40
 Ending Balance: \$1,535.57
 Deposits included three from membership dues.

Expenses:
The READOUT \$158.30
 (November and December)
 Telephone 13.70
 Postal 75.00
 (Yearly permit renewal)
 Miscellaneous 80.40
 (WorldRadio, bank charges, badges)
 The report was approved as read.

VP Sandy reported she had taken inventory of the club station at Downey High and now has a list of everything there, including a complete list of books available in the club library. Contact her for the list.

Bart, KF6AX, reported that Chuck, KJ6DO, will be having license classes in Oakdale starting in January. Contact Chuck at 847-5491 for more information.

A short discussion followed about the club offering it's services to the Stanislaus County Fair next summer to find lost kids during the fair. VP Sandy was checking with the manager of the fair to see if we could be of value in this regard.

Sandy also mentioned that she had checked prices on safety vests the club might purchase to use while providing communications during bike races and similar events. She said a local Modesto company had them for \$4.50 each for the mesh cloth style and \$4.65 for a cloth type.

Bob, WA6ZLO, reported on the effort to get a communications trailer for the club. He said Ernie, K6UVI, was working with Steve Crabtree of the American Red Cross office in Modesto who has been talking with officials at the Navy Communications Station on Rough and Ready Island near Stockton. The prospects appear good. Hopefully, there will be more definitive information to report at the next meeting according to ZLO.

Leroy, NV6S, gave the Technical report. He said he and Andy, WB6GUM, plan to go up the hill and do some work on the 440 machine and the packet node this weekend. He said he is still waiting for the six meter repeater to be delivered.

Bart, KF6AX, asked about the per-

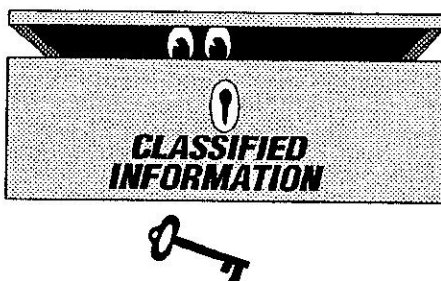
son or person(s) who have been playing with the autopatch bringing up the dial tone and trying to make calls. Leroy said he would give Bart the information he could use to control that problem.

The possibility of having a swapfest was discussed. After discussion it was decided to take a closer look at it before committing.

A break was taken at 8 pm and delicious cookies were served by Liz, KD6GIW.

After the break, the VP announced those members who offered to run for 1993 officers. She then opened the floor for any nominations for office. None were heard. A secret ballot vote was taken and the proposed slate was elected unanimously. They include Sandy Ingram, KC6TBK, President. Vice President, Elizabeth Eyre, KD6GIW; Ernie Rader, K6UVI, reelected Secretary and Andy DeGroot, KD6MOD was elected Treasurer. The new officers as well as the outgoing officers were given a hand for their contributions to the club. Meeting adjourned at 835 pm.

Respectfully submitted by Bob, WA6ZLO, for the Secretary who was ill.

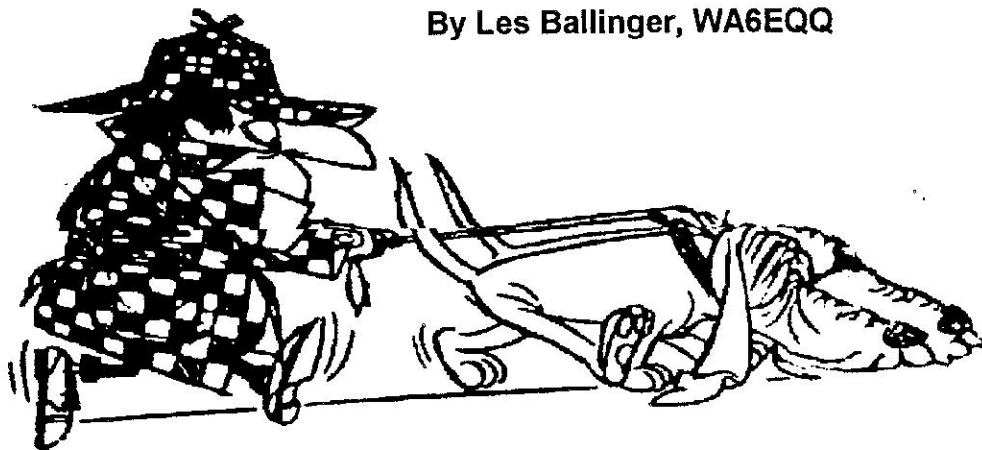


If you would like to advertize your business in *The READOUT*, contact the editor. Rates are:

Full Page (Camera Ready) . \$25.00
 Half Page \$15.00
 1/4 of Page \$10.00
 Business Card \$ 5.00

Tracking The Hughson Spur

By Les Ballinger, WA6EQQ



While talking recently to Tony Rose, WA6KOI, he told me he could not work the WA6KTK BBS at Manteca because of a wandering carrier which would appear on the frequency (145.79) MHz occasionally. He said it wasn't very strong, but strong enough when it was there to block use of the BBS. Tony had gone out in his van looking for the source using the S-meter on his two meter rig and was able to get a general direction on the signal in the Hughson area, but

ment at Tony's house, we set out north bound on Geer Road from Turlock. The signal had drifted down in frequency to 145.775 MHz when we first checked it. We stopped occasionally to get direction using the quad antenna and the Icom IC-24AT. At this point the signal was too weak to be detected by the Dick Smith unit.

As we got to the intersection of Geer and Whitmore just outside the city of Hughson the Dick Smith unit was responding to the signal. Tony said this was the area where he got the strongest signal with his rig. The Dick Smith unit was indicating that we had passed the signal source on the eastside and that it was now south-south west of our location.

I wanted to take another bearing with the quad antenna but didn't want to do it so close to a TID sub-station.

We drove west on Whitmore towards downtown Hughson about a half mile to an area clear of trees and buildings. I got the quad antenna and HT out and it indicated the direction the Dick

'it wasn't very strong, but strong enough when it was there to block use of the BBS.'

needed my help in tracking it down. So, I got out my direction finding equipment and got ready to make the trip to the Modesto area.

My equipment includes a Dick Smith DF unit, DF quad antenna, an RF sniffer/attenuator and Icom IC-24AT HT. I set the equipment up in my van and after testing and calibrating the equip-

See 'Hunt' page 11

Tracking the Hughson Spur

From page 10

Smith unit was indicating which was now South. We took the next road heading South and drove in the town of Hughson.

As you who have hunted hidden transmitters know, it is easy to get to the neighborhood of the signal but sometimes very difficult to locate the exact source of the RF as the signal gets stronger and your instruments may saturate. The Dick Smith unit directed us to the Hughson Elementary School.

We circled the school with the unit indicating the signal was coming from somewhere on the school grounds. We took bearings from three sides with the quad which indicated the signal was coming from a tower located on one of the buildings.

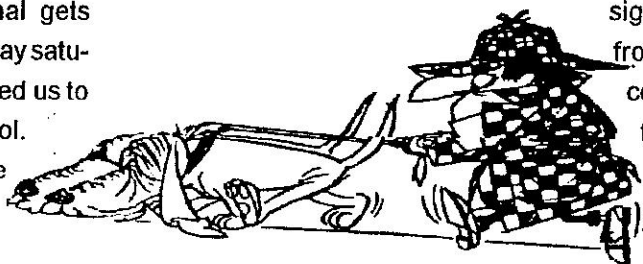
The tower had an antenna on the top but I wanted to be sure it was the source of the RF. Here is where the RF sniffer does its stuff. I disconnected the IC-24AT from the sniffer/attenuator. Tony rotated the quad antenna as I adjusted the sensitivity of the sniffer. We got a direct indication to the antenna on the tower.

As we were contemplating what to do from this point, a man opened the door of the building. He turned out to be the Principal of the school. We told him of the signal coming from the antenna causing interference to the local BBS. He took us to the room where the radio was located. It was a Motorola mobile connected to a power supply. I had my HT in my hand and watched the S meter as I reached over and turned the power supply off. Bingo, no more signal.

It was a great feeling to locate the source of an interfering signal and

be able to watch the signal go away as you flip the switch I would estimate the signal strength to be about 150 to 250 milliwatts. I told the principal that he should have the radio checked before putting it back in service. He said he didn't know why it was on anyway, as they had not used it for a long time. Tony and I thanked him for his cooperation and left with a smile on our faces.

A note about the equipment used. The Dick Smith DF unit works on the doppler principal. It has four anten-



nas that are electronically switched. The indicator is a compass made up of 22 LED's. The north or zero degree indication is the direction your vehicle is facing. East, or 90 degrees, would be to your right and south, or 180 degrees, would be to the rear, etc. Its resolution is 11.25 degrees and is intended to be used while in motion for best results.

The attenuator is a home-brew unit with a total of 80 db attenuation in increments of 3 db using six switches. The diagram for it has been in many ARRL publications. It is used to attenuate the signal when using the HT and is not needed for the sniffer.

The sniffer is a simple circuit advertised as an audio continuity tester and RF sniffer. Since I do electronic repair, I thought it might be good piece of equipment, so, I built one and found it worked quite well. It's made with a six inch loop of 22 AWG solid hookup wire with a 50 Ohm resistor opposite the connector. I thought it might be interesting to connect it to a two element quad

antenna that I made.

The quad is basically a loop made from 22 AWG solid hookup wire with a 50 Ohm resistor opposite the connector. It's a very directional close range DF sniffer. By using the sensitivity control you can make it squeal its head off or just tick as it goes past the signal source.

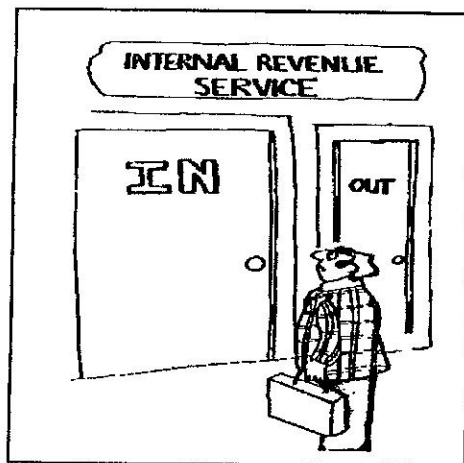
The quad antenna was designed by Grady Williams, K6IXA, as a project for the Turlock Amateur Radio Club just for Dfing. It will detect a one watt signal from a HT with a rubber duck from more than one city block when connected to the RF sniffer. It's made from 1/2 inch PVC pipe and hard drawn aluminum wire and is cheap to build. It has two elements, a driven element and a reflector.

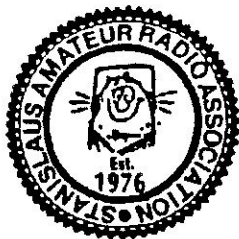
The dimensions differ a little from a quad normally used for transmitting. It has gain and can detect weak signals and presents a good front to back ratio. When I made mine I didn't glue all the pieces together so I can disassemble it so it will lay flat in the back of my van. I have transmitted through mine and it has a SWR of less than 2 to 1. Sure gives a HT some range.

Drawings are available for the quad, attenuator and sniffer.

73, Les Ballinger, WA6EQQ, Sacramento, CA.

Thanks MARC-KEY Manteca Amateur Radio Club Newsletter.





Editor's Notes

By Bob Pinheiro, WA6ZLO

Congratulations to the 1993 officers elected at our December meeting. It's another strong slate that will guide the club through its 17th year. Thanks also to the outgoing officers for a job well done.

According to the W5YI Report, the FCC has amended Communications Act with new Rules implementing the Telephone Consumer Protection Act of 1991.

Effective December 20, 1992, new rules go into effect concerning telephone solicitation and FAX transmissions as a result of Congressional passage of legislation called the "Telephone Consumer Protection Act of 1991." The new rules are intended to impose reasonable restrictions on those often annoying tele-marketers, specifically those on an auto-dialer or prerecorded basis, and to allow consumers to avoid unwanted telephone solicitations without unduly limiting legitimate tele-marketing practices.

In imposing restrictions on telephone solicitations, principally to the homes of consumers, the new rules, among other things:

- prohibit auto-dialed or prerecorded voice calls to residences (unless it's an emergency or the person being called consents). Live, manually dialed tele-marketing calls, are apparently okay;

- prohibits the transmission of unsolicited FAX advertisements;

- require that FAX machines manufactured as of December 21, 1992 contain an automatic ID feature with the name and telephone number of the sender appearing on each FAX message;

- require that telephone solicitors iden-

tify with their own name, the name of their company, and the telephone number of their company;

- require that prerecorded solicitations disconnect the line of the person being called within 5 seconds of that person hanging up;

- most significantly for those of you who find these calls intrusive as to personal privacy, each company must maintain a do-not-call list of residential consumers who are not to be contacted by telephone. In addition, no telephone solicitations may be made before 8 am or after 9 pm (local time at the consumer's location).

If a tele-marketer violates the law, or its related FCC regulations, an individual consumer can sue the tele-marketer in state court to get an injunction against the tele-marketer to stop any further phone calls. The consumer can also sue for actual monetary damages or \$500, whichever is greater. The FCC can take additional action against the tele-marketer for non-compliance by assessing monetary forfeitures for violations.

As with all government regulations, there are exceptions. Calls that are non-commercial in nature do not have to comply. Nor are business calls in which an already existing business relationship exists between the parties. Calls made by any party wherein no unsolicited advertisements are transmitted are also outside the statute.

In other FCC news, the FCC's Gettysburg, PA, licensing facility has a very big backlog of Form 610 Amateur radio applications awaiting license issuance. It is now taking up to 12 weeks for an applicant to receive an operator li-

cense. Licenses are currently going out to examinees who were tested during early September!

According to John Guili, Chief of the Commission's Washington, DC, Computer Applications Division, the FCC will be upgrading its information systems infrastructure in early 1993, both hardware and software.

A new Amateur Licensing System is scheduled for implementation during the first quarter of 1993. The FCC plans to move the existing main frame batch oriented system to a local area network (LAN) based client server architecture capable of accommodating both paper and electronic filings from the Volunteer Examiner Coordinators (VECs).

The new system will be tested later on in 1993 and plans are to have the VEC's file Form 610 applications electronically starting in early 1994. Guili said he envisions the new process will be similar to accessing a computer bulletin board with its menu of functions including uploading of Form 610 information. This should greatly speed up issuance of Amateur Radio operator licenses.

Call signs issued in the six and seven call areas as of December 1, 1992:

Sixth District
Extra-AB6PC
Advanced-KN6DF
Gen-Tech-Nov-KD6PEZ
Seventh District
Extra-AA7SL
Advan-K17IA
Gen-Tech-Nov-KB7QWZ

Be sure to mail in your dues !
Happy New Year and 73. Bob.

Safety Tips Regarding Lightning

These tips on what to do during lightning storms could save your life. Take a few minutes to study them.

If possible stay indoors, and don't venture outside, unless absolutely necessary. Stay away from open doors and windows, fireplaces, radiators, stoves, metal pipes, sinks, and plug-in electrical appliances. Don't use plug-in electrical equipment like hair dryers, electric tooth brushes, or electric razors during the storm.

Don't use the telephone during the storm—lightning may strike telephone lines outside. Don't take laundry off the clothesline. Don't work on fences, tele-

phone or power lines, pipelines, or structural steel fabrication. Don't use metal objects like fishing rods and golf clubs.

Golfers wearing cleated shoes are particularly good lightning rods. Don't handle flammable materials in open containers. Stop tractor work, especially when the tractor is pulling metal equipment, and dismount. Tractors and other implements in metallic contact with the ground are often struck by lightning.

Note—Persons struck by lightning receive a severe electrical shock and may be burned, but they carry no electrical charge and can be handled safely. A person who appears to have

been "killed" by lightning can often be revived by prompt mouth-to-mouth resuscitation, cardiac massage, and prolonged artificial respiration.

In a group struck by lightning, the apparently dead should be treated first; those who show vital signs will probably recover spontaneously, although burns and other injuries may require treatment. Recovery from lightning strikes is usually complete except for possible impairment or loss of sight or hearing.

Thanks U.S. Department of Commerce, National Oceanic and Atmospheric Administration (NOAA).

The Technical Report

By LeRoy Campbell, NV6S

The technical front had some interesting moments last month. As most have heard, the two-meter repeater had been suffering from interference earlier last month. KC6WXX, Dennis, and I took the trip up the hill to chase the problem. With a spectrum analyzer we could see many interesting signals and mixes occurring on the mountain top.

The most curious was a nice little signal at 145.15 MHz that proved to be generated by our receiver. A quick tune eliminated the signal and the problems seemed to be cured. We returned home and things seemed to be operating quite well.

The following Tuesday, disaster struck again and KC6VVO and I, made the trip up the hill that evening. The problem turned out to be a relay that was failing to make contact and required some exercise to get back in operation. All again seemed to be going well.

Then during the Thursday

night net when the link was up, we heard the interference again. A little check proved that it only occurs when the link is up, or the 220 transmitter is transmitting. I suspect the oscillation that I tuned out of the receiver had actually moved beyond the window seen by the spectrum analyzer and instead of solving the problem, we only moved it. We will attempt to solve it permanently on another trip.

I'm still waiting to receive the six meter repeater so we can get it on the air. The 440 repeater is still ailing and Andy, WB6GUM, and I are still trying to get together to work on that as well as install the Drake transmitter at the digital site. I thank both Dennis and Bill for their help on recent trips. Thanks to all of you for your patience. 73, LeRoy, NV6S.



Miniature Frisbee Antenna Invented

Two researchers at Georgia Tech Research Institute have invented a small (2-6 inches across), round, spiral antenna that is thin enough to be literally stuck anywhere. Drs. Johnson Wang and Victor Tripp invented the device, which is thin enough at three-tenths of an inch to be built using common printed circuit board techniques to carve a spiral pathway out of a blank PC board.

One foreseen application for the spiral antenna (which looks like a miniature Frisbee) is to paste it on the roof of an automobile and capitalize on its 900% bandwidth to transmit and receive signals for several radio and mobile-telephone systems at the same time.

The scientists discovered that this antenna's radiation pattern fits inside a circumference of one wavelength, centered about the center of the spiral. The diameter of the entire antenna depends on the lowest usable frequency.

W5YI Report

Madman

From front page

Mathis technician said and that I wanted them to solve the problem. They insisted the problem was with my television set and suggested that neither me nor the technician knew what we were talking about. Rather than argue with them, I told them I would get back to them and hung up.

I decided to call my aunt, whom it just so happens, has worked for the FCC for 30 plus years. She told me Post Newsweek was probably using 145.25 MHz for one of their audio-video carriers which is in the Amateur two meter band. My aunt suggested I call the cable company again and ask them correct the problem and if that did not work to call the National Cable Television Association (NCTA) in Washington, D.C.

So, I called Post Newsweek again. I told them I knew what was going on and if they did not correct the problem I was going to call the NCTA. They said they would be out as soon as possible and added that I was getting to be a 'big pain in the butt'.

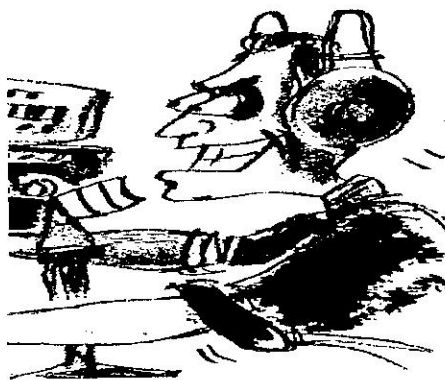
It's interesting to note that all the time I was on CB, I never received one solitary complaint, even when the lights dimmed when I used my foot warmer.

Later that day a couple of guys from Post Newsweek came out and worked diligently as they had each time before. Their efforts resulted in eliminating the interference from my set, but they failed with the sets of my neighbors. As they were leaving they said they would get back to me. (Yeah—sure—give me a break!).

I waited a few days and did not hear from them, so I called the NCTA to see what they were going to do. They told me there were not going to do anything. They said they had received a report

(presumably from Post Newsweek) that leakage Post Newsweek's lines was so small that they had a hard time detecting it. They said it was less than .005 micro volts which was way below FCC requirements.

At this point I was contemplating my next move but it was not to be as my landlord contacted me on Friday the 13th (November) and demanded I vacate the property as they intended to sell the place. Thirty days later we moved. It's a shame the madman was not around to see me take down my



antennas and pack up my gear. She died before we moved. Bless her soul!

I have moved to Empire, where I continue to work on researching the problem of TVI / RFI cable interference and hope to submit a proposal to the FCC to eliminate the cable television industry use of Amateur frequencies. I will let you know how I make out.

I now have cable service from the Sonic Company and it absolutely clear of any interference. Sonic does not use Amateur frequencies in their system. (Smart People). I would like to thank everyone for their support and vow that I will continue the fight. Post Newsweek is not off the hook by a long shot. By the way, it's sure peaceful here in Empire without the Mono Avenue Madman.

73, Tim, N8QXL.

Store Computer Data on your VCR?

What do you do when your computer can't accept data as fast as it's being transmitted? The answer is to store it in some way, if possible. But this has a drawback: it might slow down the rest of the system.

Some new digital television broadcasting techniques could include ways of directly storing data into a home VCR. With direct-broadcast-satellite (DBS), for example, much more data can be sent down than can possibly be stored on today's videocassette.

One idea to counter this is to install a miniature hard-disk drive inside the VCR. It will record and store everything it hears, and can record it on the videotape later at a slower rate. This would be equivalent to recording a television program at high speed and playing it back later at its normal pace. You could get a full season of programs in just a few minutes, or a complete movie in just seconds. This might lead to a new direction in home video. Instead of going to the store, one has only to call and select a program.

Or maybe one could select it over the TV set. It is then sent to your home over a data link, recorded on the VCR's internal hard disk, and you can watch it later. The program is billed to your account.

Hams could use this technology in the future. In the GHz range, a complete videotape can be sent from ham to ham very quickly. How about a complete video database callbook?

W5YI Report

Happy New Year



Calendar

Jan 19 SARA Monthly Meeting ... 730 P.M.
Feb 13 VE Testing in Merced 900 A.M.
Feb 16 SARA Monthly Meeting ... 730 P.M.
Mar 13 VE Testing in Modesto 900 A.M.
Mar 16 SARA Monthly Meeting ... 730 P.M.
Apr 16-18 DX Convention 2 Days
 Holiday Inn Visalia
Apr 20 SARA Monthly Meeting ... 730 P.M.
May 8 VE Testing in Turlock 900 A.M.
Oct. 22-24 . Pacificon '93 Convention 3 days
 Concord, CA.

SARA meet 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 6affiliated club and is also affiliated with the Stanislaus County and City of Modesto RACES programs.

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Time To Renew Your SARA Membership

1993 Membership Dues Schedule

Full Membership	23.00
Associate (Unlicensed Applicant)	12.00
Student (Upto Sophomore in college)	12.00
Family (Head of Household)	23.00
Next two members living in same home	12.00 ea
Out of Area	11.00
(More than 150 miles from Modesto)	

The **SARA** membership year runs from January 1st through December 31st of each year. The dues rates are reviewed each year and adjusted if necessary based on the general financial health of the club treasury and anticipated expenses vs. the estimated number of members. As we have often stated, running a club is just like run-
business. We must
come to pay our
part of your dues
newsletter fol-
ning a small
have the in-
bills. The biggest
goes to support of this
lowed by liability insur-
ance, equipment insurance and maintenance. You will not be billed separately for membership dues. Your only notice will appear here in **The READOUT**.



Please examine the membership dues schedule appearing on this page and then prepare your check or money order and **ALONG WITH THE MEMBERSHIP FORM** below, mail them to the club's post office box listed below. Make your checks or money orders payable to **SARA**. Also, please note the ZIP code asks for your full 9 digit code. The post Office will be requiring all 9 numbers starting in 1993. If you don't know yours, call the post office an they will give it to you. Remember to include the completed membership form with your payment. Thank You for your support!