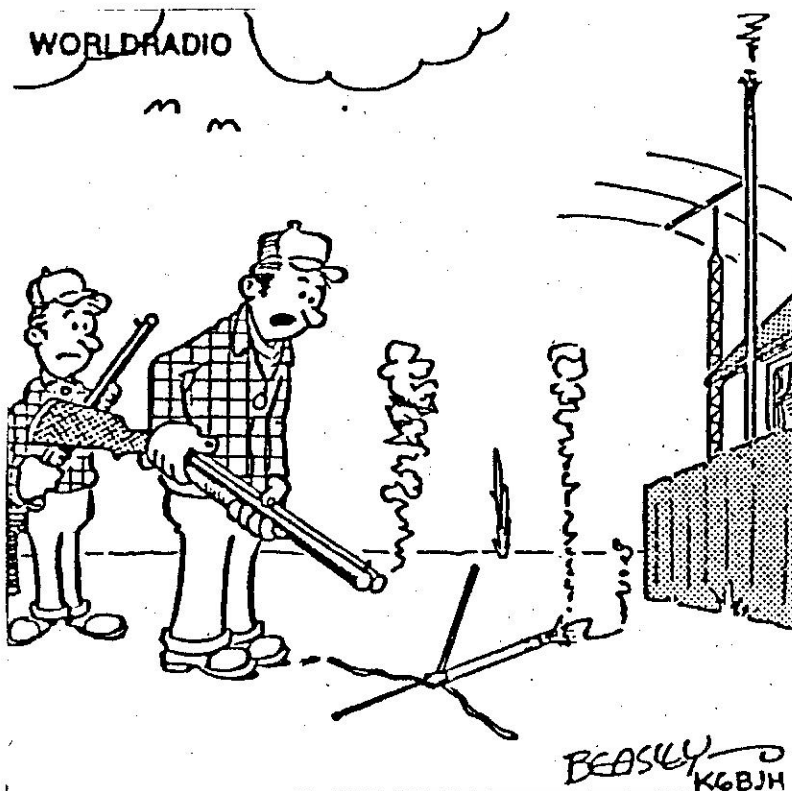


The READOUT

Year 12

Number 4

April 1990



WHAT KIND OF A STRANGE LOOKING PERCH IS THIS THAT MY DOVE WAS SITTING ON ?

Stanislaus Amateur Radio Association

P. O. Box 4601 Modesto, Ca. 95352

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1990 SARA Officers

President Phil Hartz WD0FFX
Vice President . . Oliver Borns . . KJ6YZ
Secretary Linda Franklin N6REB
Treasurer Al Dionizio . . N6SAE

SARA VHF Net

Thursdays @ 8 p.m. (Except Holidays)
2 meters 145.39 MHz WD6EJF
220 Band 223.68 MHz WD6EJF

Contributions to **The READOUT** are always welcome and may be submitted to the editor by mail or via packet at WB6V BBS on 144.97 MHz. The deadline for articles is the 15th of the preceding month.

Editor

Bob Pinheiro, WA6ZLO
1221 Mist Flower Ct. Modesto, CA. 95355
209-523-5880

SARA is an ARRL affiliated club and is affiliated with the City of Modesto and Stanislaus County RACES.

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Lower Level Conference Room*

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Scam Artist WB2PTI Jailed

Violation of Bail

Con artist Michael Harrison, WB2PTI, of Oceanside, NY, was rearrested February 14th for violating the terms of bail following his indictment on August 28, 1989, by a Federal Grand Jury, on 50 counts of mail fraud.

He pleaded guilty to five counts mail fraud for defrauding ham operators with a phoney mail order scam. In late 1988, Harrison placed ad's in 73 magazine professing the resurrection of two well now company's, Dentron and Atlas.

The ad claimed the old and new Atlas Radio Co. were one and the same. Harrison offered the Uniden HR-2510 10M transceiver for only \$219.95 which was less that the distributor cost. Orders from throughout the world poured into a New York post office box, but not one piece of equipment was ever delivered. Instead, Harrison put the money in his pocket.

After his release on bail in August, Harrison apparently concocted still another scam when on December 5, 1989, Harrison opened another post office box, this time in Massapequa, NY, using the fictitious name of Robert Pearson. He then ran an advertisement in the January issue of Ham Trader requesting Drake transceivers TH-5, power supplies, accessories, Yaseu equipment, etc. Authorities eventually became aware that Harrison was up to another scam and moved to revoke his

bail. He failed to appear for his revocation hearing and a warrant for his arrest was issued on February 14th. Harrison apparently realized he was in deep trouble and suspected the Judge would revoke his bail and throw him in jail.

So, rather than appear in court, Harrison tried the insanity route. He tried to check himself into a Long Island mental hospital but they would not admit him because he wasn't sick.

'N2BMP Taken For Over \$3,000'

Postal Inspectors caught up with him at the hospital and arrested him. He pled guilty on February 26 and is awaiting sentencing.

According to Postal Inspectors, Harrison is a chronic, pathological con-man who first came to their attention in 1980 when they received complaints about an outfit called Communications Technology Group. Later he used the business names of Osborne Computer, Victor Technologies and Webster Radio.

The largest loss in the most recent scam was suffered by Garth Conover, N2BMP, who was taken for over \$3,000. By the way, Harrison supposedly owns 3 corvettes. - W5YI

SARA At POW-WOW

May 5 & 6 In Valley Springs

SARA has been invited again to operate an Amateur Station at the Valley Springs Pow Wow the first weekend in May. (May 5-6, 1990). The event is held on a working cattle ranch just outside Valley Springs on Paloma Rd.

The Amateur station will be set up on Friday May 4th and run through Sunday after-

'California's Answer To Quartzsite'

noon. If you would like to help set up the station and/or operate please contact Dave, KJ6DL at 521-8281 You can also contact him on .39 or leave him a note on the WB6V BBS on 144.97.

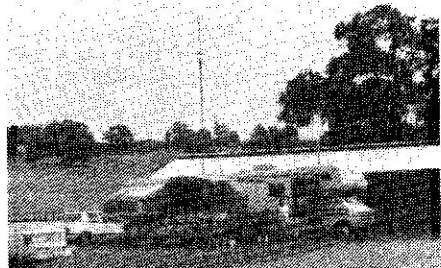
The station offers an excellent opportunity to demonstrate Amateur Radio to the thousands who will attend the two day event. The station will handle message traffic as well as demonstrate Amateur Radio in general. Operators and equipment will be needed! Bring the family and enjoy the events while operating the station for as long as you can. So, why not take the family and have some fun. Admission to the grounds is free and you can camp overnight for \$5.00 a night, or you can

visit for the day. In any event, you and the family are sure to have a good time. There is plenty of things to do and see. There is a/c power for the equipment so you don't have to worry about juice.

There will be nearly 200 tailgaters displaying & selling Arts & Crafts, Gems & Minerals. Music galore including Blue Grass and Country and Western. Plenty of food including Chicken-in-The Barrel & Steak Barbecues. A treasure Hunt for metal detectors freaks and an Antique Gas engine display, just to name a few of the many activities. Overnight camping is available for \$5.00 per night.

Reservations can be made by calling (209) 772-1265.

To get to the Pow Wow, California's answer to the famous Quartzsite, Arizona show, take Hwy's 26 or 12 to downtown Valley Springs where they intersect. Turn NE and go to the



first stop sign, turn right and go approximately five miles on Paloma Road to the Snyder Ranch. Don't miss this event.

The VE Report

The March 1, 1990 test session sponsored by the Tri-County VE Team was a success. 15 candidates attempted 33 elements. Two candidates earned a Novice ticket, five candidates upgraded to Technician, and three candidates upgraded to Advanced. The pass rate was 63.6% for all elements taken at the session.

Congratulations to Hartley Bush, N6TIV on his upgrade to Advanced. Eric Francis, KB6BXZ from Turlock, also earned the Advanced ticket. Kevin Perry earned his Technician and is still waiting for his Novice ticket to arrive. Mary Loveland, YL of NW6G, earned her Novice ticket.

Four students from Bob Hoskins' (KJ6QD) Turlock High School radio class earned Novice/Technician tickets and CSCEs, (Certificate Successful Completion) including Dwayne Eklund, David Allen (N6ULZ), Andrew Swanson (KC6IQU), and Josh Nelson (KC6IQS).

Other successful candidates traveled from Merced and Tuolumne Counties.

The next test session in Modesto is scheduled for Thursday evening, June 7, 1990 at Chrysler School. The code tests begin at 6:30 pm with all written elements being administered at 8:00 pm. Call Chet, W6XK, for additional information. Phone 883-2968 or leave a message on WB6V-2 or W6XK-1 (144.97).

A test session is scheduled in Merced on April 21, 1990 at 9:00 am. Mike, K16PR, is the contact person. Phone 383-2166 or forward a message to him @K6RAU BBS in Merced. Good luck and 73, Chet W6XK

Moving?

If you are planning to move, *PLEASE* let us know *BEFORE* you do it. We use the bulk mail system to mail *The READOUT* each month which saves us postage costs.

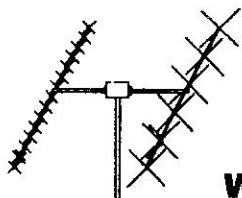
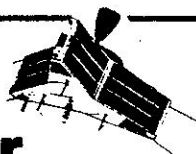
HOWEVER, the Post Office *WILL NOT FORWARD BULK MAIL*, even if you leave a forwarding address.

If you notice above the mailing label on the back page you will see the words...*"Address Correction Requested."* That means that the Post Office will return the newsletter to us if you have moved and will give us your new address. *BUT*, they charge us 25 cents to do it!

Here's the break down on costs. 16.7 cents to mail it to you originally by bulk mail. 25 cents to get it back with your new address and another 25 cents to mail it to your new address by first class mail.

So, you see the whole thing costs us 66.7 cents every time it happens. That gets a little expensive after awhile. So, please remember to let us know, before you move !! Thank You!

Amateur Satellites



WB5ZDP
Kelth Berglund

Part three from WorldRadio

Last month we agreed that a satellite was just a repeater in orbit, with some striking similarities to your local 2M repeater with the input and output separated by 600 kHz. On all Amateur satellites the input (uplink) and the output (downlink) are separated by entire bands.

Modes

In satellite lingo a "mode" is a shorthand method of describing the uplink and downlink bands (see Figure 1). For example, The Mode "A" transponder of satellite RS-10/11 has its uplink on 2M and its downlink on 10M. I suppose they initially called it the mode "A" transponder because it was the first widely used Amateur satellite transponder. Also, it is a good first

transponder for the beginner in Amateur satellites. Figure 2 is a chart of all active Amateur satellites and the modes of the transponders on them.

The Mode A Station

With very few exceptions everybody that I talk to on the satellites started out using Mode A. It's an excellent mode for the beginner as well as the long time satellite user. If you understand the ins and outs of a Mode A station, you'll have no trouble configuring your station for other modes.

Many people that I talk to in the AMSAT booth at the local hamfests are surprised to learn that they already have the majority (or all) of the equipment required to operate Mode A in their hamshacks. If you have a HF radio capable of receiving 29.300 to 29.500 MHz, you're halfway there. Figure 3 is a block diagram of a typical Mode A station.

Antennas

Antennas for Mode A are not as critical as antennas required for some of the other satellite modes. The reason for this is that the present active Mode A satellite (RS-10/11) is in a 100 KM circular polar orbit. In other words, the satellite orbit takes it over the North and South Pole at a virtually constant height above the earth.

Not only is the satellite not extremely high, the receivers aboard the satellite are extremely sensitive. The reason for this is that the Russians are only allowed 5 watts on 2M (Why? I don't know.) and, in order to access the bird, they must point some sort of directional antenna as the satellite passes over. In this country, however, you and I are allowed to transmit considerably more than 5 watts. So, instead of using

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Satellites

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5 watts and a steerable, directional antenna, you can use an omni-directional antenna and 25 to 75 watts. The effective radiated power toward the satellite will be the same.

In the past I have made many successful satellite QSOs using mobile whips, J-Poles and Ringo-Rangers.

On the receive side, you can use virtually any antenna capable of receiving 10M energy. I have used long wires, mobile whips, dipoles, ground mounted verticals and tribanders.

The antenna I usually use is my HF Yagi at 50 feet, mainly because it is the antenna already in place. For Field Day I have used a 10M dipole only eight feet above the ground

MODE	UPLINK	DOWNLINK
A	145.9 MHz	29.4 MHz
B	435.5 MHz	145.9 MHz
J	144.3 MHz	435.9 MHz
L	1.269 GHz	435.8 MHz
S	435.5 MHz	2.400 GHz
K	21.2 MHz	29.4 MHz
T	21.1 MHz	145.9 MHz

Figure 1. Amateur satellite modes

strung between two trees (eight feet because that's how high I could tie the strings.)

The advantage of using linear, omni-directional antennas is that you don't have to point them and the tracking of the satellite is not nearly as important. The disadvantage is that

the satellite's antennas are also linear dipoles. What this means is, as the satellite tumbles in its orbit, there are times when its antennas are "cross-polarized" to yours.

Basic antenna theory says that in order to receive a vertically polarized signal, the receive antenna should be vertically polarized also. Likewise, a horizontally transmitted signal should be received using a horizontally polarized antenna.

If the transmit and receive antennas are crossed polarized, then the received signal strength will be greatly attenuated. What this means for the Mode A satellite station using linear antennas is that, as the satellite tumbles, there will be times when the satellite downlink fades. This is not a "show stopping" problem, though, and many thousands of QSOs have been made using dipoles and other linear antennas.

One type of simple antenna that is somewhat immune to the rotation of the satellite is a "turnstile" antenna. This antenna is nothing more than two crossed dipoles fed 90 degrees out of phase.

This type of antenna exhibits circular polarization. Circular polarization can be modeled as a long piece of twisting ribbon. Instead of the RF field having a constant orientation to the earth, the field rotates through all polarizations once each cycle. In other words, as the satellite tumbles the downlink to you may be any random polarization; however, the received signal will be the same.

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Satellites

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I don't have the space to go into a construction article on this antenna: however, an excellent article can be found in the Radio Amateur's Handbook and The Satellite Experimenter's Handbook.

The Receiver

As previously mentioned, if you have a HF rig or general coverage receiver capable of receiving 10M, you're halfway there. The internationally allocated subband for satellites in the 10M band is 29.300 to 29.500 MHz. There should be no transmitting of SSB or FM there because of interference to weak signal satellite downlinks (FMer's take note!).

What you'll hear is just normal SSB or CW QSOs, except they'll be calling "CQ satellite" or "CQ RS-10" and there will be a noticeable doppler shift (sounds like drifting) on the signal.

Some HF rigs may not be optimized for receiving that high in the 10M band. It seems that the manufacturers peak the performance of the receiver around 28.5 MHz at the expense of higher up (my Kenwood R-599D seems to work OK there). If this happens, you may want to consider placing a preamp between your antenna and the receiver. Preamps may be purchased from a variety of manufacturers, or they are easily homebrewed. Again The Radio Amateur's Handbook has an excellent construction article on inexpensive 10M pre-amps.

The Transmitter

The uplink of Mode A (and J) requires some sort of 2M transmitter capable of a few watts of SSB or CW. The vast majority use an all mode 2M rig. The term "all mode" implies that the rig is capable of transmitting and receiving CW, USB, LSB and FM.

The advantage of owning an all mode 2M rig is that you can use it for a variety of purposes.

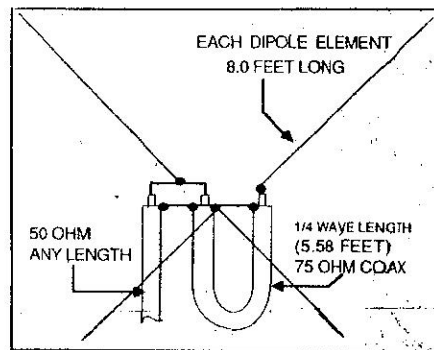


Figure 4. Block diagram of a turnstile antenna

First, on Amateur satellites, it can be used as the uplink for Mode A and Mode J. The receive portion can be used as the downlink for Mode B and Mode T. In addition, the rig can be used as a driver stage for a 1269 MHz Mode L transmitter or as a receive I.F. for a 2400 MHz Mode S receiver. When the satellite is not in view, there is a lot of activity on 144.2 MHz SSB. Anybody not familiar with 2M SSB will be amazed at the DX. Contacts of 200 miles are an everyday occurrence and there are several folks out there with 30 or more

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Satellites

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states. Using 2M moonbounce, there are many who have worked all 50 states on 2M.

When you get tired of SSB, there is **always** FM. The same repeater operation and packet that you do with an ordinary FM-only rig can be done with an all mode rig.

The smaller mobile all mode rigs are perfectly adequate for satellite operation and are usually somewhat easier on the old pocket-book. Also, consider the purchase of a used rig (or "previously owned," as the used car salesman likes to say) at a considerable savings over the new purchase price.

Next Month

For some, the purchase price of an all mode 2M radio is out of the question. An alternative is to use your HF rig to drive a transverter. Next time we'll cover what a transmit converter is and the basics of computer satellite tracking.

Walter Cronkite New Amateur

According to 73 magazine, retired CBS newsman Walter Cronkite, has joined the ranks of Amateur radio operators. Walter's Novice call is KB2GSD and his home QTH is in the state of New York.

6 Meter Grab Denied

No New FM Broadcast Band

A proposal to take the 6 meter band from the Amateur Service has been nixed by the FCC. The FCC denied, for a second time, the request of a New Jersey FM broadcaster to convert the band into a new FM broadcast band.

In denying the proposal, the FCC stated the petitioner, Laurence Tighe, Jr., a licensed Amateur himself, failed to adequately address the issue. Specifically, that Amateur operations could be accommodated elsewhere in the spectrum and further that broadcast operations in this band would not cause interference to international Amateur communications.

By international law, the six-meter band is exclusively allocated to the Amateur service in North and South America.

Welcome New Members

Welcome to new SARA members, David and Mary Lou Tardiff, KB6RHD & KB6RHC of Tracy. David is an electrician in San Leandro. Mary Lou is a housewife. Welcome David Allen N6ULZ, Turlock. David is the VP of the Turlock club this year. KC6AMO, Cliff, of Waterford. Cliff is a new Technician and retired. Welcome Scott Swanson, KC6IQV, from Turlock. Scott & David Allen are students at Turlock High School.

Editor's Notes

By Bob Pinheiro

WA6ZLO

Best wishes for a speedy recovery to Lynn, KB6DXX, who is recovering from open heart last month at Doctor's Hospital.

- Congratulation to Hart Bush, N6TIV, who upgraded to Advanced at the March 2nd VE session in Modesto. Thanks for your card Hart!

- Mike Wheeler, W6VY, has moved to Massachusetts. Mike was forced back east again by his job with AT&T. Mike has settled in Haverhill, Ma. Good Luck Mike!

- Remember the Pow-Wow coming up the first weekend in May. Your help is needed, especially for setting up and operating. Contact Dave, KJ6DL.

- The ARRL annual dues have been increased to \$30 effective April 1, 1990. This is the first dues increase in 9 years. The family/blind rate was increased to \$4. The rate for those 65 or older remains 80% of the current rate or \$24.

- The 1990's will bring some smart electronic devices to new automobiles. Electronic systems operating "smart power devices" will control functions now run hydraulically. Power steering and automatic transmissions, for example, could be control-

led by a central computer using multiplex wiring. Multiplex will allow the on board centralized computer to control many devices, eliminating many circuits that otherwise would be needed. Heaven help you the first time you fire up your high power RF rig and blow the brain in the on board computer.

- Improvements to electronic anti-lock braking should make a good system even more effective. As you brake, the sensors in the braking system detect imminent wheel lock-up (skidding) and prevent it by reducing brake pressure sufficiently to allow the wheels to turn.

- Another electronic device in use today, but likely to get far more widespread use in the '90s, is the high-security ignition locking. One such system uses light-emitting diodes and a silicon photodiode to determine if a valid key is being used to start the engine. Use of an invalid key causes the system to disable the fuel and ignition systems for a short period of time. Another such device uses electronic resistance detectors to identify a valid key.

- The FCC has fined a Beech Bottom, WV, man \$1,000 for illegally operating a broadcast station on 3820 kHz in the Amateur band. Mark Leavitt operated the unlicensed station from his home broadcasting music and talk while identifying the station as "Experimental Radio". Unlicensed operation of a radiation transmitter violates Section 301 of the Communications Act.

That's it for this month. Don't forget to check into Thursday night net and hear the WestLink Reports. 73 Bob.

SARA Minutes

By Linda Franklin, N6REB

Club Secretary

3-20-90

The March 20, 1990 meeting was called to order at 7:30 pm by President Phil, WD0FFX. Introductions were made by 24 members and guests. Bob, WA6ZLO made a motion to accept the minutes as printed in The READOUT, the motion was seconded and carried.

Treasurer Al, N6SAE reported the General Fund 2-20-1990 balance was \$2,246.73. Four deposits have been made since then totaling \$449.67 bringing the subtotal to \$2,696.40. Total debits were \$205.77 bringing the General Fund balance to \$2,490.63 as of 3-20-1990. The Fund Raiser account balance on 2-20-1990 was \$132.55 with one deposit of \$24.00 from the last meetings raffle, bringing the balance as of 3-20-1990 to \$156.55.

WD0FFX reported the Education Fund balance for 3-20-1990 after paying \$30 state sales tax for 1989 is \$547. A motion was made to accept the treasurer's report, seconded and carried.

Also mentioned was the General Liability Insurance premium of \$612 which is due again in May 1990. WA6ZLO inquired whether or not the premium amount charged was predicated by the number of members that are covered. Treasurer N6SAE said he would check into this matter prior to paying the premium.

WA6ZLO also made a motion that the club pay the Liability Insurance at the lowest possible premium. The motion was seconded by Hart, N6TIV and carried.

Vice President Oliver, KJ6YZ emphasized increasing club membership, the upcoming Garage Sale and Raffle, Field Day-June 23 & 24, the Dinner-Dance or Picnic and the possibility of chartering a boat for a club fishing trip for everyone to think about.

WD0FFX brought up the repeater and touch tone interference and as yet it has not been pinpointed. A letter from a concerned member was also presented in which they mention the same type of interference with the MJC BBS and feel it could be the same person creating the interference to the club. They are interested in working with SARA to find out who the party is.

LeRoy, NV6S reported the repeater equipment is operational at its best presently and he wants to revamp the antenna system on the backup repeater and mount it on top of the tower instead of the side. It's impossible to get it side mounted in such a manner as it is not using the tower as a reflector in the area we want to cover and we are using RG-213 coax which is not good for VHF frequencies. He wants to buy some 99-13 coax which may give a 3db gain out of that system by getting those improvements made.

The new sanctioned low level repeater in Fairfield on 440 is on our uplink frequency

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Minutes

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between the 2 meter site and 220 machine and is causing some interference. Our input is PL'ed, and their signal will not open our machine, but when our machine is up, they ride in on the squelch tail before it drops out. LeRoy's thought at this time is to experiment with the antenna and null their signal out if possible.

Due to the touch tone game players, some modifications have been made to the equipment to allow us some fairly easy control of it so we can shut the equipment off when needed and several control operators have that information. Regarding the WD8EJF digipeater, NV6S said it would cost about \$15 for a crystal to move the digi to 144.97 since WB6V BBS has moved there and some users go through the digi to WB6V BBS. WDOFFX said we should wait on making the move until the long range plans of the BBS is known, but that it is up to the club and if the club feels it's something we need to do, then we need to go

ahead and do it.

Phil also announced the Bike-a-thon will be held on Saturday April 7 and is sponsored by the Empire Fire Dept. It will begin at 7am and end approximately 4pm. 11 or 12 people with 2 meter equipment are needed to volunteer. Those interested please contact WDOFFX.

The Raffle was again discussed and it was decided to have only one main prize. Jim, N6KMR made a motion to have a raffle with the winner having the choice of \$500 cash or a handgun and that the drawing be held on July 4th. Marc, N6WCW seconded the motion and it carried. N6KMR made another motion to go with the lowest bid for printing the raffle tickets, LaVonne, WB6PJY seconded the motion and it carried.

President WDOFFX reported that he hasn't heard from Downey High officials yet as they are still trying to put together something beneficial to everyone in regards to the club station site at Downey High. No evening raffle was held and the meeting was adjourned at 9:15pm. Respectfully submitted by Secretary N6REB.

Win \$500 Or .357 Colt Python Gun

The 1990 SARA club raffle will feature a WINNER'S CHOICE of prize - \$500 cash or a .357 COLT PYTHON handgun. Tickets will be distributed to club members in April for immediate sale at \$1.00 each. The drawing will be held on July 4th with ALL sold ticket stubs and unsold tickets to be mailed back in time for SARA to receive them NO LATER than JUNE 30TH. The purpose of this years raffle is to raise revenue for the REPAIR and UPGRADE of the REPEATER and EQUIPMENT, A MOST WORTHY and NECESSARY CAUSE. When you receive your tickets, PLEASE GO OUT AND SELL, SELL, SELL.

The American Radio Relay League Pacific Director's Report

By Charles McConnell, W6DPD

The FCC has proposed to move the Novice-Technician segment on 80 meters from 3700-3750 kHz to 3675-3725 kHz. FCC reasons that moving this segment will reduce interference to Novice and Technician operators. The FCC invites comments from all Amateurs on this proposal. No Docket Number or Comment deadline was specified in the news release. Watch your "QST" for more information.

Read the No-Code proposal Docket 90-55 in the April "QST". This is the FCC proposal as a result of a number of requests for rulemaking on a no-code license. After you read the FCC proposal, if you have comments or ideas on the Docket, please send them to the FCC or your Director and Vice Director. The Comment deadline is early August. The ARRL will be filing comments on Docket 90-55 near the end of July 1990. This Docket may bring about some changes in the Amateur Service.

The FCC has changed the sub-bands for beacons operated under automatic control in the 2 meter and 70 cm Amateur bands. This

was done at the request of the ARRL. The new beacon sub-band on 2 meters is from 144.275 to 144.300 MHz and for 70 cm is from 432.300 to 432.400 MHz. The ARRL's request to change the sub-band for automatically controlled beacons in the 220 MHz band was denied.

The 1990 Fresno Hamfest is May 11-13, 1990 at the Airport Holiday Inn in Fresno. Contact the Fresno Amateur Radio Club, Inc. P.O. Box 783, Fresno, CA. 93712-0783.

The 1990 ARRL Pacific Division Convention will be October 12-14, 1990 at the LeBaron Hotel in San Jose. Contact Shorty Frietas, AE6Z, for details.

All affiliated clubs are reminded that the 1990 annual reports are now available to be completed and returned to ARRL Headquarters.

This annual report and 51% ARRL membership is all that is required to keep a club on the list of active affiliated clubs. Then your club is eligible for all benefits and privileges that belong to ARRL Affiliated Clubs.

Congratulations are in order to former Pacific Division Director Rod Stafford, KB6ZV, San Jose, who has been elected an ARRL Vice President by the Board of Directors. Congratulations also to former Vice Director of the Pacific Director, Charles P. McConnell, W6DPD, Fresno, who was moved up to Director to fill Stafford's position. The ARRL appointed Joseph D. Lambert, W8IXD of Boulder City, Nevada as the new Pacific Division Vice Director.

C.H.P. Celebrates 60 Years

It's hard to believe that in August 1929 when the California Highway Patrol was born, they had no radio system, no plans for a system, and virtually no money for any kind of experimentation. During the early thirties, however, far-sighted members of the patrol visualized the advantages of a radio system and were anxious to exploit this relatively new means of communication.

Toward the end of 1935, the CHP decided to buy a house trailer to be used as an emergency field headquarters and to be equipped with a high-powered, battery operated public address system. Since the audio system for the PA system included the main components of a 50 watt transmitter, the necessary remaining parts were included and the first CHP operated radio station, KAPA, was born.

In 1936, a wealthy mine operator in Grass Valley purchased a transmitter for use in Nevada County and the first CHP fixed base station, KAPI, was born. In 1937 the first really powerful CHP transmitter was built in Sacramento, a 2,500-watt station with a call sign of KADJ. It was built in the basement of the old Motor Vehicle Building at 11th and N streets in Sacramento.

Because of its proximity to the DMV, KADJ was able to furnish very rapid license and registration information from the DMV files.

At least ten more stations were soon

added at strategic locations throughout California. During these times all transmissions were strictly one-way from station to car. The dispatcher was never sure the message was received. It wasn't until several years later that two-way communications became commonplace.

Today, the CHP has a sophisticated statewide system of several hundred base stations, mountain-top repeaters and thousands of mobile units. All CHP cruisers and motors are equipped with radio extenders which allows officers to communicate from their walkie-talkies through their car radios and then onto one of many mountaintop repeaters located throughout the state or car-to-car.

In 1954 the Zenith 12000 emergency telephone number for reporting traffic emergencies was installed in 10 counties. However, since there is no "Z" on the telephone, the public had to call an operator and ask for the number. The call was then routed on an emergency line to the nearest dispatch center. Zenith 12000 has since been replaced by 911.

The CHP has 2,300 patrol vehicles, 14 fixed wing aircraft and 14 helicopters all fully equipped with modern radio equipment. By the way, the first electronic siren was installed in CHP units in 1968. 164 CHP officers have been killed in the line of duty since it's creation on August 15th, 1929.

To mark the event the CHP in-service publication, ZENITH CHP 12000, has published an excellent account of the history of the CHP from which this

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Digital Radio News

By Ed Rodriques, KA6DRN

The product of 6 years of work at DEC's facilities in Cupertino resulted in a "radical new way to package semiconductor chips that allows twice the performance of conventional circuit boards, yet takes up just a fraction of the space" according to an article in the S.F. Chronicle.

While semiconductor chips have become smaller, more powerful, and faster, "the printed circuit boards that hold the chips pose problems in harnessing that power". Placing the chips closer together on the boards in an attempt to get more power per board results in problems with heat dissipation.

Utilizing an "ultra-small board" which is made of copper and a compound referred to as "polyimide", DEC claims "to have solved the problem by shortening the distance that electrical signals must travel". DEC's board measures only 5 inches on a side and contains "up to 72 chips".

DEC's group manager Joe Zeh indicated that the technology could be utilized "to make very powerful desktop computers". Several patents have been applied for.

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information was extracted. If you would like to try and obtain a copy of this publication write to the California Highway Patrol Public Affairs Office, PO Box 942898, Sacramento, CA. 94298-0001. Ask for their "Winter 1989" Issue.

Packeteers

SARA Members

The popularity of Packet radio continues to attract new converts including many SARA members. Here's a list of SARA Packeteer's.

1. WA6ZLO, Bob, Modesto
2. WB6V, Ed, Ceres
3. W6XK, Chet, Hughson
4. N6JSN, John, Ceres
5. N6SZZ, John, Modesto
6. KJ6CH, Chas, Modesto
7. N6REB, Linda, Modesto
8. WD0FFX, Phil, Modesto
9. KB6DJ, Jim, Modesto
10. K6UVI, Ernie, Springfield, Or.
11. KJ6DL, Dave, Modesto
12. KB6DXX, Lynn, Modesto
13. KJ6GE, Charlie, Modesto
14. N6SAH, JoAnne, Modesto
15. N6GGB, Don, Tracy
16. N6OCS, Bob, Modesto
17. WB6SHE, Bill, Copperopolis
18. NV6S, Leroy, Modesto
19. WA6KOI, Tony, Turlock
20. WB6UJD, Tim, Modesto
21. N6LSF, Tom, Oakdale
22. KJ6DL, Oliver, Modesto
23. AA6TQ, Gordon, Modesto
24. N6KMR, Jim, Modesto
25. N1TH, Kurt, Ripon
26. N6TTR, Doc, French Camp
27. WD6EFM, Mike, Sacramento
28. N6LSA, Tom, Modesto

-- Calendar --

April 17, 1990	SARA Monthly Meeting	730 p.m
May 11-13	Fresno Hamfest	3 days
	Airport Hilton Hotel	
May 15, 1990	SARA Monthly Meeting	730 p.m
June 7, 1990	VE Exams in Modesto	630 pm
June 19, 1990	SARA Monthly Meeting	730 p.m
June 23-24	1990 Field Day	24 Hrs.
July 17, 1990	SARA Monthly Meeting	730 p.m
Aug. 21, 1990	SARA Monthly Meeting	730 p.m
Aug. 21, 1990	SARA Monthly Meeting	730 p.m.
Sept. 18, 1990	SARA Monthly Meeting	730 p.m.
Oct. 12-14	Pacific Division Convention	3 days
	LeBaron Hotel, San Jose	
Nov. 20, 1990	SARA Monthly Meeting	730 p.m

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

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

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