

# - The - READOUT

Year 12

Number 11

November 1990

## State Emergency Broadcast System Testing Packet

**A** new digital (packet) emergency information system designed to supplement the current Emergency Broadcast System (EBS) is up and running with a digipeater on Mt. Diablo In Contra Costa County. The new system is known as Emergency Digital Information System (EDIS) and is presently being tested by KCBS radio and KGO-TV in San Francisco and KFBK in

Sacramento. The new system uses inexpensive digital radio equipment to link local governments to the news media during disasters. The tests are being coordinated by the California State Office of Emergency Services telecommunications division which controls the Mt. Diablo digipeater. The National Weather Service has already successfully

*See 'EBS' Page 2*

## Pirate Los Banos FM'er Silenced By F.C.C.

**V**ictor E. Ruiz of Los Banos, CA. was fined \$1,000 on Sept. 26th for operating an unlicensed FM radio station called "KJAM". The FCC's San Francisco office previously shut down the pirate station operating on 90.7 MHz. The call letters, KJAM, are officially assigned to a broadcast station in South Dakota.

In other FCC enforcement action, Richard Burton, ex-WB6JAC, of Harbor City, CA. was sentenced on Oct. 1st to one year probation, a \$2,000 fine and ordered to continue psychiatric care. He was found guilty by a Los Angeles jury of July 18th of operating a 2M radio without a license for the second time, a felony. Burton had previously served 7 months in prison for the same offense in 1982.

Thomas Haynie of Virginia Beach, VA, has been convicted of intentional satellite interference and unauthorized operation of an uplink transmitter.

Haynie, an employee of the Christian Broadcasting Network, used CBN's equipment to send a biblical message urging repentance over-riding "The Playboy" and "American Exxxtasy" adult programming channels. Haynie himself now faces one year of repentance and a \$100,000 fine. He will be sentenced December 7th.

The FCC has issued a \$1,000 Notice of Apparent Liability to Monetary Forfeiture to Gordon N. Sku,

*See 'FCC' Page 2*

**Next SARA  
Meeting  
November 20, 1990  
730 pm  
Stanislaus County  
Administration Building  
12 & H Streets  
Modesto, CA.**

The *READOUT* is published monthly by the Stanislaus Amateur Radio Association. COPYRIGHT 1990 by the Stanislaus Amateur Radio Association, (SARA), Modesto, CA. All Rights Reserved. Permission is granted for reproduction in whole or in part provided that credit is given to *The READOUT* and to the authors of the reproduced material.

**1990 SARA Officers**

**President**

Phil Hartz . . . . WDØFFX . 544-8515

**Vice President**

Oliver Borns . KJ6YZ . . . . 576-7718

**Secretary**

Linda Franklin N6REB . . .

**Treasurer**

AL Dionizio . N6SAE . . . 523-4485

**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 N6REB- 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.

**'EBS' Packet** *From Front Page*

originated several emergency messages through the system. When operational, local, state and federal agencies will have terminals from which they will be able to send and receive emergency messages.

The use of packet ensures that EDIS can survive emergencies which could, and often does, sever underground cables and block telephone networks while knocking out many normal channels of communication.

The State Warning Center's existing digital processing system in Sacramento is the heart of the EDIS. A message processing computer is a key advantage of the system. The computer will receive, store and disseminate emergency traffic from government agencies throughout the state, all of which is error free. A TNC, receiver and outside anten-

na is all that is needed to receive EDIS, all of which will cost less than \$500 compared to the present EBS receiver/tone generators which cost several thousands. The packets can be fed directly to computer screens, printers and directly to newsroom computers and character generators for instantaneous on-screen captions.

EDIS owes much of the groundbreaking work for such a system to the Amateur Radio operators who developed packet radio technology. In addition to land-based links, the long range plans for the system include digital links to satellites for relaying messages throughout the state.

The new system was developed in light of widespread criticism of the existing system following the San Francisco earthquake last year.

**'FCC'**

*From Front Page*

WB9BCL, of Crete, Illinois, for willful interference to ongoing communications on 14.205 MHz on three different occasions during September.

Meanwhile, the Kingsville, Texas, FCC monitoring office has sent an Official Notice of Violation to Lloyd S. Montcalm, WA2EXQ, of Hyannis, MA, for transmitting continuous 'CQ' calls in excess of 8 minutes in duration on Sept. 13th.

**V.E. News**

*By Chet, W6XK*

The Tri-County VE team is conducting amateur radio examinations from Novice to Extra Class during the months of November and December. The test fee is \$4.95 and applicants are required to bring original amateur licenses and CSCEs as well as a photocopies of these documents. 610 forms will be provided by the team and, as always, walk-ins are welcomed. Please note the following sessions:

11/17/90	Sonora	9:00 a.m.
Contact	WA6NSK (209)	586-4917
12/6/90	Modesto	6:30 p.m.
Contact	W6XK (209)	883-2968

*Call Signs: As of Oct. 1, 1990*

Extra= AA6YE

Advanced= KK6QF

Gen-Tech-Novice= KC6ODO

# Introduction To Packet Radio

By Ernie Rader, K6UVI Springfield, Or.

## Part 3

**M**ore than likely, the two letters used together most commonly in ham radio are the letters C and Q. Though we never hear CQ on two meter FM because we announce our presence in other ways, we do call CQ on CW and HF sideband. We can even subscribe to a well known publication by that same name. We can also call CQ on packet.

The CQ command is used to transmit a short text message from a node (A node is a very sophisticated digipeater. We discussed digipeaters last time, and a full description of nodes will be tackled at a later date). When the CQ command is transmitted, it allows receiving stations to

connect to the sending station. For example, I could connect to my local node and say something like: "CQ from Ernie, K6UVI - Anybody around tonight?" The node then sends a transmission listing my request for contact.

A station wishing to reply may do so simply by connecting to me. My CQ command remains "armed" to accept replies for 15 minutes, or until I issue a command to disconnect from the node.

Users of the CQ command are cautioned to be patient in waiting for a response. By typing "USERS", a list of stations calling CQ will be displayed and contact can then be

made. Simply connect to the station listed and then carry on your conversation--RIGHT ON THE SAME FREQUENCY! Remember, the TNC knows when to transmit and will not do so when someone else is momentarily using the frequency.

When your QSO is completed, just disconnect and you will be released both from your contact and from the node system. It's easy. Give the CQ feature a try on your local node. You might work someone locally, in Phoenix, on the East Coast, or maybe even me, K6UVI in Springfield, Oregon. You never know where you'll get connected to next. Enjoy! 73, Ernie.

## Monterey Hamfest January 19, 1990

**T**he Naval Postgraduate School Amateur Radio Club in Monterey will hold their second annual Ham Radio Winterfest January 19, 1991 at the Monterey County Fairgrounds in Monterey.

Featured will be an open to the public Flea Market, Auction, Communications Demos, Contests, Manufacturers Representatives and door prizes.

Free Admission to the event which will be held indoors in Salinas Hall at the fair grounds. Hours will be 8 am to 3 pm. Talk in on 146.97 repeater or 145.55 simplex.

## Tuolumne Co. Repeater News New High Level Machine

**T**he 147.945 W6FEJ repeater in Sonora has been moved from Sonora Peak overlooking downtown Sonora to 4,980 ft. Mt. Elizabeth just east of Twain Harte. The move occurred on September 30, 1990.

In addition, the Tuolumne Repeater Association's 440.975/445.975 Mhz repeater will soon move to Mt. Elizabeth from it's previous home in Groveland. The 440 machine will require a 103.5 Hz P/L to access. In other repeater news from Tuolumne County, a new high-country 2M repeater is on the air from Strawberry Peak near Strawberry on Hwy 108. The elevation is over 5,000 feet. Frequency is 147.075 (+). The machine call sign is KK6NB.

The Sonora netrom node, N6KFR-1 has also been moved to Mt. Elizabeth. Packet users can connect to the netrom by either using N6KFR-1 or SONORA. The machine operates on 145.03.

*-Thanks Tuolumne County Comm Lines*

# SARA Minutes

By Secretary Linda Franklin, N6REB

October 16, 1990

The October 16, 1990 meeting was called to order at 7:30 pm by President Phil, WDØFFX. Introductions were made by 14 members and guests. A motion was made by Dave, KJ6DL to accept the minutes as read by Secretary Linda, N6REB. The motion was seconded by LeRoy, NV6S and passed.

Treasurer Al, N6SAE reported the General Fund Account balance as of 9-18-90 was \$781.04 with 2 deposits totaling \$71.00 bringing the balance to \$852.04. Three checks were written totaling \$104.67 leaving the balance as of 10-16-90 at \$747.37. The balance of the Fund Raiser Account as of 9-18-90 was \$3,506.87. One deposit totaling \$59.00 brought the total to \$3,565.87. One check written for the amount of \$1,194.69 (for the new controller) left the balance as of 10-16-90 at \$2,371.18. Dave, N6YHZ, made a motion to accept the Treasurers report as given and Skip, N6ZAA seconded the motion and it passed.

Vice President Oliver, KJ6YZ, thanked all who helped with the communications at the Riverbank Wine and Cheese Festival Bike-a-thon held Oct. 14, 1990. He then asked that all club members give serious thought to nominees for next years new club officers. Nominees are to be named at the November club meeting with the election of new officers at the December meeting.

Also for the November meeting, Bob Wilkins N6FRI, a representative of the Northern Amateur Relay Council of California (NARCC), will be the guest speaker. His topic will be the future of repeaters. NARCC handles coordination of repeaters in Northern California. The club officers urged members to attend the November meeting, when we will consider the possibility of an increase in club dues

for 1991. The matter of increasing club dues by \$1.00 each year for 5 years was discussed at the November 1989 meeting. This would bring the dues for next year to \$22.00 and \$11.00 ea. for the next two family members living at the same residence and the fourth or more family members free.

WDØFFX said because of so many things that have happened to divert his attention, he hasn't had time to organize the ham class, but that he does intend to get something going with in the next two weeks. Thursday nights are a strong possibility with Saturday being unsure for classes.

Skip, N6ZAA, made mention of his phone patch that covers the Tracy area and members interested should call Skip. His number is on the club roster. He said the same rules apply as those for SARA's patch.

Chief Engineer NV6S reported that he has moved the 220 repeater to the 2-meter site and that the link will be down until the club's new controller arrives and is installed. At that time he plans to bring the 220 and 2-meter repeaters down the hill to interface them with the new controller. The backup repeater will be in service during that period.

KJ6YZ made a motion that the club go ahead and purchase a new 2-meter repeater that was mentioned in by NV6S at the September meeting. The motion was seconded by NV6S, accepted and passed.

WDØFFX reported that he and KJ6YZ attended the NARCC meeting as representatives of SARA. The main discussion of that meeting was about concerns over the 220 coordination. Phil said he and Oliver were very verbal along with about 45 others concerning the 220 proposed band plan.

The meeting was adjourned at 9:13 pm. Respectfully submitted by Secretary N6REB.

## RFI Series

We regret we are unable to continue the series from Frank Massa, N6YHY, regarding RFI problems with his neighbor, the City of Ceres and the FCC. Frank has not submitted any more information.

We know that the SARA TVI/RFI committee helped Frank prepare an impartial report to the FCC which contained information on equipment tests and surveys of Frank's other neighbors. The tests showed that Frank's

equipment was clean and the other neighbors were not experiencing any interference. After receiving this report, the FCC wrote to the complaining neighbor advising him that Frank was operating his station properly and suggested several steps for the neighbor to take to reduce the interference.

It is unknown if the neighbor took the advice as he is not talking to Frank.

# First Bike-a-Thon

By Skip Kritcher, N6ZAA

On Sunday October 14, 1990, I took part in helping provide communications for the bike-a-thon held in conjunction with the Riverbank Wine and Cheese Festival. It was my first time and I had a good time.

I thought it was a bike-race and there were a few participants who were there to race, but most of them were there just for the ride. I was impressed with the devotion to the sport displayed by all the bikers down to the last two to cross the finish line. There was just no quitting throughout the entire course with the exception of those who encountered mechanical problems.

As for the SARA communications effort, it went quite well in spite of some dead spots for our machine. We used the 224.04 repeater and did some remoting from my car using a remote on 445.70 MHz to get back to the .39 machine which worked out well. I put a speaker on the hood of the car which the bikers could hear and keep up with all the reports of flat tires, lack of food, bent rims and needs for assistance. They listened to reports of one rider who took a wrong turn which cost him an extra 20 miles.

Hart, N6TIV came up to Knights Ferry and tried using the 445.70 MHz remote from my car but couldn't get the hang of it. I explained to him that when you go in on a remote to a repeater you must allow the machine to drop before you transmit. Dave, KB6RHD, used the remote several times, as he has the same type of radio and had no problems because he was familiar with the operation.

The bike-a-thon went very well and I think all had a real good time. I know I did. 73, Skip.

Thank You to these SARA members who provided communications for the Riverbank Cheese and Wine Festival bicycle tour. Special thanks to Lou, N6LRB, who came all the way from Oakley to help the effort. Jim Cupp, WD6CYZ; Phil Hartz, WD0FFX; Larry Dewitt, WB6GJT; Lou Southerland, N6LRB; Dave Tardiff, KB6RHD; Al Dionizio, N6SAE; Hart Bush, N6TIV; Skip Kritcher, N6ZVV and Oliver Borns, KJ6YZ.

# Technical Report

By LeRoy, NV6S

The new ACC Controller for the repeater has been ordered and is expected to arrive around Oct. 19th. Thanks to N6SAE for taking care of the ordering chores. Skip, N6ZAA and Charlie, KJ6GE, have accompanied me on recent trips to Mt. Oso. The first trip was to take care of some minor maintenance and the second trip was to move the 220 repeater to the 2 meter site. The move was done on September 29, 1990, by Charlie and me.

The 220 antenna was mounted at the top of the tower at the 2 meter site. The link was taken out of service at that time and will be down until the new controller is installed.

I'm sorry for the delay, but the controller has taken much longer than expected. It will be around the first or second week of November before I can have all systems working again. When the new controller gets here, I plan to bring everything except the backup repeater down the hill so that I can interface the new controller and the link.

I have a lot of work that needs to be done to the system to clean things up and make permanent repairs of the temporary ones that are often done on the hill. If all goes well, I'll have the repairs and interface accomplished and be able to take it back up the mountain the following weekend.

I thank everyone for being patient while the systems are being worked on, and I thank those who have helped me to maintain the system.

## Heathkit For Sale Again

On September 4, 1990, Zenith Data Systems (ZDS) announced that the Heath Company is for sale.

Zenith Data Systems, said that this sale will aid ZDS and the Heath/ Zenith Business Centers to increase their focus on the personal computer market.

Heath Company makes and sells home electronics and Heathkit electronic kits.

The Heath Buyer's Group will be honoring all agreements to date, but is closing down. This does not necessarily mean the demise of the Heath company, only that Zenith is selling it.

However, sources within the company confirm that the days of those kits from Benton Harbor, Michigan are nearly history. The return on the investment was not acceptable to the company.

# Editor's Notes

By Bob Pinheiro, WA6ZLO

**C**ongratulations to Tim, N6ZUC, Frank, N6YHY and Victor, KC6NSH, all of whom upgraded during the past month. Tim is now an Extra, Frank, a General and Victor, a Technician.

• The post office has been doing a number on our bulk mailed newsletters the last couple of months. Delays of up to 13 days for local delivery have been noted. A complaint has been lodged with the post office who ordinarily deliver local bulk mail with 5 days of receipt. Please let me know of any problems that you notice. Also, a reminder that if you're planning to move be sure to let SARA know your new address before you do it. Even if you leave a forwarding, the Post Office will not forward The READOUT to your new address. The reason is because The READOUT is mailed 3rd class bulk. It saves us money on postage, but one of the draw backs is that they will not forward it to a new address. Instead it is returned to us and it costs us 25 cents to get it back with your new address.

• Also, thank you to those who notified me of errors in the club roster which appeared in the last newsletter. A couple of corrections. Matt Garcia's call is KC6MXU not MXV. Linda Kritcher has a new call. She is now N6ZRV.

• Good Luck to Steve, N6EKV who has set out on a new career. He has given up his traveling hardware salesman job to buy and operate the Ace hardware store in Patterson. Steve is commuting back and forth to Patterson from his home in Modesto. Good Luck Steve!

• On September 20th, someone attempted to shoot out the top beacon light on the 500' communications tower in Elverta just outside Sacramento. Things like this happen all over the country. The big exception in this case was that two workers from a tower company were attempting to replace the beacon at the time, and the person doing the shooting appeared to have an automatic weapon.

When a couple of the bullets struck the tower, the workers radioed this information to other workers on the ground who quickly put the power switch to the tower light and called the Sheriff's Department. The shots stopped and the shooter fled after the tower lights went off. The guys on the tower watched a car hastily depart a field near Elverta Road and East Levee Road. No one was injured.

• Welcome to the 180th member of the year. New to SARA is John Walters, KC6KSN, a new Novice from Riverbank. Welcome aboard John!

• Local radio stations KOOK/KBEE-FM are well represented with licensed Amateur radio operators. In fact, complete QRP

and VHF stations (and soon packet) are operational from inside the station studios on Cummins Drive in Modesto. The hams are Lee, WS6Q, Tim, N6ZUC, Marion, KB6NMF and myself. The QRP equipment is necessary to prevent RFI interference to sensitivity broadcast and satellite equipment within the building.

• The SARA TVI/RFI crew helped solve another RFI and TVI complaint. Dan, W6SBE, helped newcomer Victor, KC6NSH, solve interference to a neighbor's telephones and television audio during Victor's 10 meters transmissions.

Remember, if you have a TVI or RFI problem, try to solve the problem yourself. If you can't, contact Dan, or Leroy, NV6S. Both have extensive experience in solving interference problems and we are very fortunate to have their services. I have an ample supply of informational sheets from Palomar Engineering on solving TVI/RFI interference which is available to SARA members for a legal size SASE to my home address. 73, Bob

---

## For Sale

100' RG8u Coax - RX Noise Bridge- Palomar Engineering Antenna Bridge- 4 position coax switch

Contact Tim Low, N6ZUC, 523-7756. (This is a business number, leave a message if Tim is not there and he will call you back.)

### For Sale:

Brand new Ameritron AL80-A 1KW linear. 10-160. Purchased new for \$1200. We sacrifice at \$800 firm. Call Victor, KC6NSH, 209/545-4032 in Salida.



Victor Garcia KC6NSH

# 'Pruning' Your Antennas

Have you ever wondered where your antenna resonates or maybe just want to get more signal out of your antenna? Well, take heed. The following is a simplified description gained through experience on how to "prune" your antennas to bring them as close as possible to resonance on the frequency selected.

The word resonance indicated that the antenna is a tuned circuit just like any combination of inductance and capacitance (LC) with a resistive component (R) that must be factored in. Just like in the winter when you prune your fruit trees by cutting branches, you often have to cut pieces from the radiating element in order to obtain resonance. Many antennas nowadays are made from extendable or collapsible parts which allow you to tune each element.

First, let's talk about the HF antennas (3 to 30 MHz). Some of you might say, "I have an antenna tuner so why should I worry about antenna length?" Well, that antenna tuner protects your transmitter when tuned properly, but that doesn't necessarily mean the rf is getting out. If that be

the case, then where is all that rf going. Much of it is circulating within the antenna tuner, some radiates from your feedline and hopefully, the remaining rf radiates from your antenna.

Let's touch on the importance of a low SWR. Actually, it's really the Voltage Standing Wave Ratio (VSWR) that we are concerned with because an excessive amount of reflected rf voltage coming back into your transmitter can damage the final tubes by excessive plate dissipation or arcing. In the case of solid state finals, it causes instant breakdown of the solid state devices. Therefore, protective circuits are incorporated in all solid state finals to reduce the amount of rf output proportional to the reflected energy. The internal arcing can do severe damage to components plus an unknown amount of RFI (radio frequency interference).

With HF, it's easy to install a SWR meter in your transmission line or in most cases, such a metering circuit is built into the antenna tuners. To determine your antenna resonant frequency, simply feed a small amount of rf into the feedline and set your

VFO repeatedly until you get the minimum SWR. For accuracy, you should calibrate your SWR meter each time you change frequency. Knowing your present resonant frequency you then know whether your radiating element needs to be extended to lower the new resonant frequency, or collapsed (shortened) to raise the resonant frequency, usually near the center of the portion or the band on which you wish to operate. The change you make in element length should be very small especially when you approach resonance. How do you know when you've reached resonance? Your recalibrated SWR meter will read the lowest reflected reading and you will get the most output of your transmitter. The effects are rather dynamic compared to non-resonant readings.

For VHF and UHF and higher, the few SWR meters that exist are precision made instruments and accordingly very expensive. Incidentally, the higher the frequency you're using, the smaller the length you prune off the radiating element as you approach resonance. One-eighth of an inch or less each time is common for 220 MHz and higher. The increased performance is well worth the time and effort taken to tune your antennas properly.

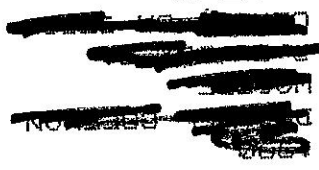
-Thanks Southern Sierra Amateur Radio Society, Tehachapi, Ca.

## New Look

*We hope you find the new look of The READOUT appealing. This is the first time we have been able to print the newsletter on 11 x 17 paper. The change was made possible when the Budget Copy Company, which prints our newsletters, installed a new copier that handles this size. Whether or not we will be able to continue with this size will depend on the cost. Prices have not been firmed up by Budget Copy and until they are, we will have to take a wait and see attitude. Your comments are welcome.*

• The series on Amateur Satellites by WB5ZDP, will continue next month.

• Next month more packet tips from K6UVI and a story from KA6GJN on Amateur radio efforts in fighting the Yosemite National Park wild fires.



Address Correction Requested

Bulk Rate  
U.S. Postage  
PAID  
Permit No. 5  
Modesto, CA.

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

# Calendar

- Nov. 17, 1990 ..... VE Test Sonora ..... 900 am
- Nov 20, 1990 ..... SARA Monthly Meeting .... 730 pm  
Speaker: N6FRI from NARCC
- Dec. 6, 1990 ..... VE Test Modesto ..... 630 pm
- Dec. 18, 1990 ..... SARA Monthly Meeting ... 730 pm  
Election of 1991 Officers
- Jan. 15, 1991 ..... SARA Monthly Meeting .... 730 pm
- Feb. 19, 1990 ..... SARA Monthly Meeting .... 730 pm
- Mar. 19, 1990 ..... SARA Monthly Meeting .... 730 pm

**SARA** meets the third Tuesday of each month (except holidays at the Stanislaus County Administration Building at 12th and H Streets in downtown Modesto. The meetings are held in the lower-level conference room starting at 730 pm. Visitors and interested parties are most welcome. **SARA** is an ARRL Affiliated Club.

Salli's

## Budget Copy Center

- High Speed Copying
- Public Fax Machine
- Laminating
- Spiral & Velo Binding
- Business Cards
- Resumes • Typesetting

Tel 529-5395 Fax 529-6366

912 13th Street  
Between J & I Streets  
Modesto, Ca.

Sallie Tullos, Owner