

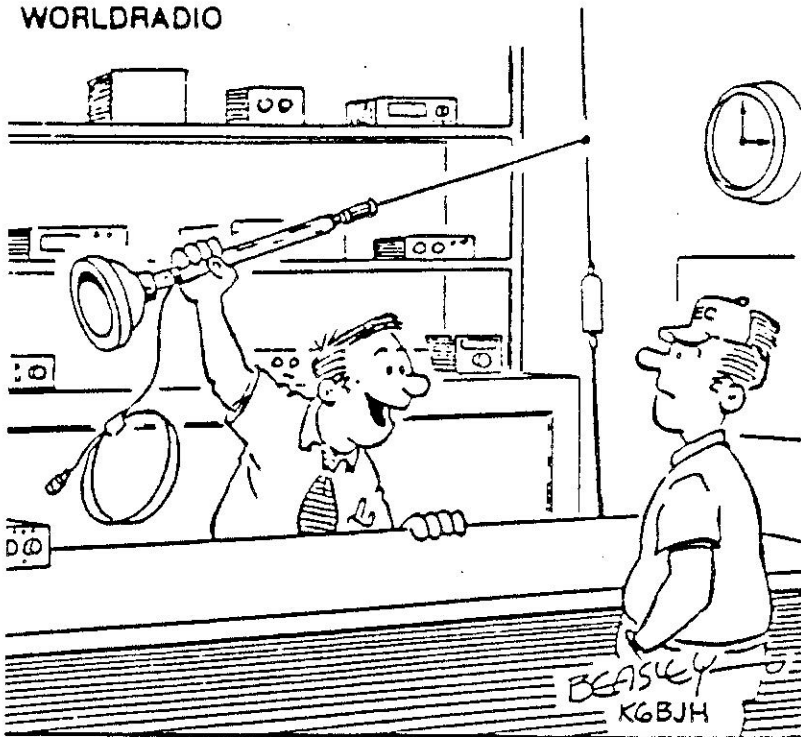
The READOUT

Year 12

Number 10

October 1990

WORLDRADIO



— BEATS THE HECK OUT OF A MAGMOUNT, AND IT ALSO HAS ANOTHER USE!

Stanislaus Amateur Radio Association

P. O. Box 4601 Modesto, Ca. 95352

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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.

Editor

Bob Pinheiro, WA6ZLO

1221 Mist Flower Ct. Modesto, CA. 95355

209-523-5880

An ARRL affiliated club

Next SARA Meeting

October 16, 1990

730 pm

Stanislaus County
Administration Building

12th & H Streets

Modesto, CA.

Lower Level Conference Room

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Radio Aerials

If you have been around radio for many many years the term "aerials" will be familiar to you. If you're new to the game, it may not be. What is referred to today as "antennas" were commonly called "aerials" in the old days.

Old timers can recall in the good old days of radio, it was generally essential to have your antenna as high in the sky as possible to catch enough of those elusive radio signals to insure good reception. The main reason for this was the fact that early day receivers left a lot to be desired in the form of sensitivity.

The word "aerial" means "high in the air", and it was natural to call those early day antennas "aerial wires". In time it was shortened to just "aerials". As the state of the art improved and receiver became more sensitive, the need for such high aerials diminished until today we don't need to worry so much about altitude.

Noting the similarity to insect antennae, which help the insect "pick-up" information from its environment, the name "antenna" was substituted for the no longer completely appropriate term "aerial." And that's way we now call aerials "antennas."

RFI Series- This month's installment of the series on RFI by Frank Massa, N6YHY, was not received in time for this issue of The READOUT. We hope to resume the series next month. -Ed.

New 40M Band?

If you're tired of all the foreign shortwave broadcast stations populating the 40 meter band, hope is on the way. A tentative agreement has been reached by the informal group concerned with shortwave reallocations at the 1992 WARC (World Administrative Radio Conference) to be held in Spain in 1992.

If the agreement is adopted, it could resolve the problems of North and South American hams sharing the band with international broadcasters.

The Industry Advisory Committee working group has agreed to propose to the FCC that Amateur operations be moved to 6950-7250 kHz on an exclusive worldwide basis, while broadcasters would take over exclusive use of 7250-7750 kHz.

In a few months, the FCC will get together with US Government users and put together the US positions to take to WARC. Although this proposal is quite preliminary, it was readily agreed to with no opposition within the working group.

Propagation

Solar activity is expected to increase with a peak this month (October). Predicted monthly 10.7 cm flux averages are: October 230, November 200, December 190, January 180. The high in the past six months was September with 240.

Increased Fines

The FCC is increasing the amount of fines imposed for pirate radio stations. The usual amount of \$750 has been increased to \$1,000 for the first violation. If the violation occurs in the aviation, marine, public safety or special emergency radio services frequencies, the fine goes up to \$1,250. In addition the FCC will seize the equipment of the violator and may take revocation or suspension action against any valid FCC licenses held by the violator in any service.

The proliferation of illegal operations has prompted stricter enforcement by the Commission who are aggressive pursuing violators.



Linda, N6REB - N6REB-BBS

Caller ID

Both AT&T and Bell South have new "Caller ID" devices (about \$100.00) that display the phone numbers of incoming calls. This allows people to know who is calling before they pick up the phone. Pizza parlors are also using them to reduce the number of fictitious delivery calls by asking the callers for their phone number and then comparing it with the number appearing on the "Caller ID" readout.

Leave A Message

Let's say you go to a pay phone to make a call and there is no answer or the line is busy. What do you do? Call later? No! Just leave a message. With a new computer voice messaging system being tested now, you can record your message by dialing a set code and talking into the phone. You will receive confirmation that your message has been recorded and the computer will then automatically dial the number every 15 minutes until the phone is answered.

Really! *The obituary editor of a local newspaper was not one to admit his mistakes easily. One day he got a call from an irate subscriber who told him he had printed his name in the obituary column. The editor quickly asked, "where you calling from?"*

Editor's Notes

By Bob Pinheiro, WA6ZLO

Our club membership has grown to 179 with the addition of these Amateurs. Welcome to Don Ellis, K2OXU of Modesto; Ken Fisher, WA6CSC of Riverbank; Victor Garcia, KC6NHS, of Salida; Matt Garcia, KC6MXV, of Modesto, Don Butterfield, WA6QWY and Chuck Bowers, KJ6DO, both of Oakdale. Ellis is a General, first licensed in 1953 who is retired. Fisher is an Advanced, a computer systems analyst who was first licensed in 1968. Victor Garcia is self-employed, a Novice, first licensed this year. He lives in Salida. Matt Garcia (no relation to Victor) is also a Novice first licensed this year and works for Gallo Glass. Don Butterfield is self-employed watchmaker who is an Advanced and was first licensed in 1968. Don is a former member of SARA who is returning after an absence of several years. Chuck Bowers is an Advanced and is a dentist at the state prison in Chowchilla. Welcome to all of you.

- The current club roster appears twice a year in The READOUT. Usually in April and September. Because we had so much news last month we delayed until this month. Please examine the list and if you find any errors please notify me as soon as possible. Remember, if you are on Packet, the complete membership list is always available on the N6REB-1 BBS in the "W" files. To access the "W" files merely type the letter "W" then

type "D SARA SARA.ROS."

- The yearly SARA Dinner-Dance will not be held this year due to a lack of support. Participation in the event continued to decline over the last several years while costs continued to mount. It just became economically unfeasible to hold the event.

- Work on the SARA club station at Downey High School is moving slowly due to other commitments on the part of our engineering staff who are busy making improvements to our systems on the hill which they hope to make before the bad weather sets in. See the "SARA Minutes" for details of those improvements.

- The FCC continues its crack down of illegal radio equipment. On August 16, 1990, US Marshals and engineers from the FCC's San Francisco office raided Tabb CB Radio in Hanford, CA and seized \$6,000 worth of illegal radio equipment. Twenty-nine pieces of equipment including twenty-seven CB linears were confiscated. The store is owned by Ronald D. Woodhouse who now faces up to \$100,000 in fines and/or up to one year in prison.

- Amateur call assignments as of September 1, 1990 for Extra, AA6XU. KK6PA for Advanced and KC6NMS for General, Technician and Novice.

- I leave you with a question. Do you know how to get a one armed man out of a tree? Wave at him!

That's it for this month. 73, Bob.

Pay Phone Rules Out Of State Taxes

The California Public Utilities Commission (PUC) has established specific rules and guidelines to standardize the pay telephone industry. An agreement has been reached between the PUC and local telephone companies, independent pay telephone owners and consumer groups who have pressuring the PUC for reforms.

Effective August 5th, all pay telephones in the State must provide 20 cent calls and free access to 911, 411 (Information), O for Operator, OO for specific long distance carriers, 800 and 900 numbers and repair service. The agreement assures public telephone users similar rates and conditions when using pay telephones in the State.

The days of saving money by buying your equipment out of state and not paying sales tax appear to be almost over. Be prepared to pay state sales taxes even if you don't live in the state where you make a mail or telephone order purchase.

Eight more states, Vermont, Rhode Island, Kansas, New Mexico, Ohio, Missouri, Utah and Georgia have recently passed "use tax" laws which require retailers to charge state taxes to out-of-state buyers.

The state of Maine requires the consumer to report their use-tax liability to the state. Thirty-three states now require direct marketeers to collect the tax on sales made to customers who live outside the seller's home state.

Some states even have arrangements in place to share sales information uncovered during audits of mail order firms with other states. You could therefore get a tax bill from a neighboring state months after the

Introduction To Packet

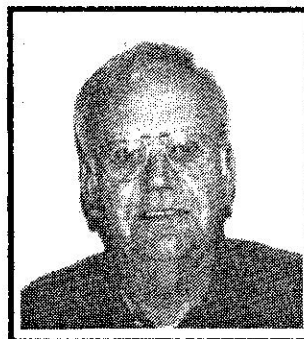
Due to the failure of a key northwest packet gateway station, our series on Packet radio has been delay. The failure has prevented the author, of the series, Ernie, K6LVI from forwarding the next installment to The READOUT from his home in Springfield, Or. It's hope that the failure will corrected in time to resume the series next month.

Planning To Move? Let SARA Know Before You Do It!

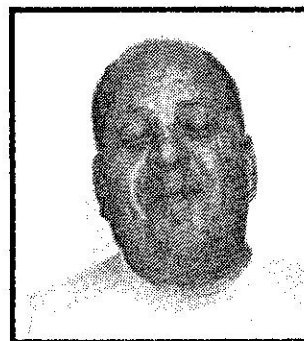
For Sale- Heathkit SB220 Linear...\$500. 40 ft tilt over crank up tower with Ham M base mount rotor with cable...\$600. 20M 2 element Hy Gain Quad with coax...\$75.
Call Frank Wheeler, W6MMH, 209-838-3771 in Escalon.

Big Mac Mix Up

A mix-up in frequencies on the cordless microphone at Our Lady of Good Counsel Church in Upper Southampton, Pennsylvania, caused some red faces. As the pastor was delivering his sermon during Sunday morning mass, he was rudely interrupted by a voice which said... "a Big Mac, large fries and a chocolate shake". Apparently, the cordless microphone had been tuned to a frequency used by the nearby McDonald's Restaurant. The priest said "It was sort of funny, but it's also very disrupting when he was trying to keep the parishioners minds on the message and not a meal.



Cliff Vowell, N6YJR



Joe Fabbri, KB6YYT

Amateur Population

There are 1,974,000 Amateur radio licensed in the world. Japan has the most. Heres a list of the top ten:

1. Japan 951,937
2. USA 467,305
3. Indonesia . . . 60,280
4. W. Germany . . 59,931
5. United Kingdom 55,000
6. USSR 52,241
7. Spain 40,848
8. Italy 28,004
9. Brazil 26,100



Skip Kritcher, N6ZAA

FCC Takes Action On 20M Mess

The FCC is apparently not content to wait for more comments regarding the ongoing and deteriorating QRM on 20 meters. The FCC has notified several Amateurs of alleged violations that could result in fines of up to \$1,000 each. Those cited included Herb Schoenbohm, KV45FZ of Christiansted, U.S. Virgin Islands, Richard Eastman, N5FX, of Springdale, Arkansas, William Terrill, K2BFI of New Hartford, N.Y. and Glenn Baxter, K1MAN of Belgrade Lakes, Maine. Schoenbohm has been an outspoken critic of HF net practices and FCC rule enforcement practices.

Of this group, only Baxter received a Notice of Violation while the others received Notices of Apparent Liability. Baxter's citation was for violation of §97.115(a)(2) for alleged handling of illegal third party traffic and failure to identify every ten minutes (97.119(a)). Additional, William Pike, N0DCP of Ferguson, Missouri and Harold Case Jr., WD4PZT of Orlando, Florida were cited for willful interference §97.101(d).

A Notice of Apparent Liability (NAL) is not a fine. Instead, it states that a violation has apparently occurred and the Amateur operator is apparently liable for a monetary fine. The Amateur has 30 days to respond to the FCC. The FCC then reviews the response and decides whether to issue a forfeiture (fine) or to take other action. Operators who receive a Notice of Violation could still be

issued a NAL within a year of the violation if the FCC deems it necessary. The FCC released transcripts of the FCC monitoring tapes which reveal this monitored exchange between N5FX and a 20M net control.

(Net Control)- "Any Fours, Fives, Sixes, or Sevens, before I go back north?"

(N5FX)- "November Five Foxtrot X-ray"

(Net Control)-"N5FX, I told you last weekend, you're not going to be allowed in on my net as long as you practice your disruptive practices...and you QRM the net. I'm not about to let you in, so just go somewhere else."

(N5FX)- "You go to hell. You don't own this frequency. I'll call my traffic in spite of what you say, you bastard..... KV4FZED, KV4FZED, KV4FZED, N5FX calling."

The FCC has 35 facilities throughout the country that have HF monitoring capability, 13 of which have long-range HF direction-finding systems. There are also several remote-controlled unattended DF sites around the country.

One can only speculate whether the Notices issued by the FCC will affect the level of QRM on 20M. Whether the FCC will be convinced by the responses not to levy fines remains to be seen and what effect all of this will have on the Amateur community to clean up its own mess.

SARA Minutes

By Linda Franklin, N6REB

Sept. 18, 1990

The September 18, 1990 meeting of SARA was held at the club station, room 51 at Downey High School and was called to order at 8:15 pm by VP, Oliver, KJ6YZ. The President was detained because of another meeting and the Secretary was ill. The President, WDOFFX, arrived at 8:20 pm and took over the meeting. Introductions followed of 30 members and guests. Treasurers report given by Al, N6SAE. In the General Account beginning balance as of 8-21-90 was \$1,005.38. No deposits. Five checks written totaling \$224.34. New balance, \$781.04. In the Fund Raiser Account, beginning balance \$3,484.87. One additional deposit of \$22.00. New balance as of 8-21-90 \$3,506.87.

KJ6YZ announced that help was needed for the bike-a-thon coming up on October 14. This run is in conjunction with the Riverbank Cheese and Wine Festival. Steve, N6EKV, reported that he has not finalized plans for SARA's participation in providing paid manpower at the festival. This is another opportunity for the club to make some money as we did with the firework stands.

YZ also mentioned that it's time to start thinking about the election of officers coming up in December. FFX announced that the club station received as a donation, the operating desk of silent key, Ray, WA6OQF,

which was donated by his family. Another desk was donated by Bill Young of Modesto who is studying for his license. A printer was donated by Tom, N6LSF.

EKV mentioned that a request to put another repeater on our two meter pair had been made to NARCC. The request is for Petaluma. The club had already expressed it's opposition to this machine and it was further decided to contact the San Jose .39 repeater group and solicit their support in jointly opposing the request for a sanction at the NARCC meeting in October. FFX volunteered to represent SARA.

Chief Engineer, Leroy, NV6S, gave the engineering report. He requested that the club approved the purchase of an ACC Controller for the repeater. Cost is around \$1300. After discussion N6KMR moved and WB6GJT seconded that the unit be purchased from our fund raising money. The motion was approved. Leroy then requested permission to move the 220 machine from the Bureau of Reclamation site to the two meter site. He cited several advantages. It would free up the linking equipment which could be used to upgrade the autopatch and eliminate the interference from the Fairfield repeater that comes in on the 440 link. The digipeater would be left at the old 220 site to secure the site for the future.

It was also suggested that another section of tower will be needed at the two meter site for the 220 repeater antenna. Additionally, moving the 220 repeater to the two meter

See 'Minutes' Next Page

220 MHz Hearing

Having exhausted its lobbying, filing, commenting and reconsideration efforts for the most part, the ARRL now looks to the U.S. Court of Appeals to roll back the reallocation of 220-222 MHz to the private land mobile radio service for narrowband usage. Oral arguments before the court are scheduled for November 16th in Washington, D.C.

FCC decisions are often appealed to the court by parties who believe the FCC to have acted irrationally or beyond its authority.

The FCC usually wins appeals of spectrum allocations however. The court tends to defer to the technical expertise of the FCC and to the agency's broad authority to decide where in the spectrum its licensees must operate. It's doubtful that the court will find enough errors in the FCC's decision to reverse it outright. Even if the court remands the case to the FCC, they are expected to reaffirm their decision and come out with additional papers to support their position.

In any case the ARRL is giving the appeal it's best shot. They have retained the law firm of Cadwalader, Wickersham & Taft to represent the Amateur viewpoint. This firm has experience in appeal matters. In addition, the ARRL's long-time counsel Chris Imlay, N3AKD will assist.

'Minutes' From Page 9

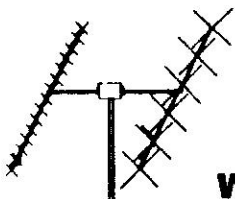
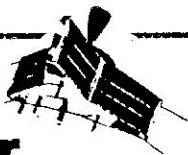
site will allow use of the new ACC controller for both machines. Leroy suggested that following these improvements the fund raising account should still have enough money to buy a new two meter repeater. When that occurs, the present Hamtronics backup repeater will be sold and the current main Spectrum two meter repeater will become the backup. ZLO motioned for approval of Leroy's request. Motion was seconded and approved.

Leroy announced there would be a delay in moving the digipeater to 145.79 MHz. He has to make a trip to the mountain to determine was type of crystal to order. Leroy turned in \$25.00 which was received in the sale of some surplus equipment donated to the club by Vorus, WA6LJB. It was announced that the club station was coming along nicely. A dipole has been installed on the tower and several guy wires shored up in preparation for the tri-band beam to be installed later this fall.

FFX announced that he is proceeding with setting up the frame work to offer students at Downey High School the opportunity to study for their license and eventually use the club station.

Four new members joined the club at this meeting. Don, K2OXU. Don, WA6QWY, Ken, WA6CSC and Victor, KC6NSH. \$34.00 was collected in the raffle which was won by Tom, N6LSA and Larry, WB6GJT. The meeting was adjourned at 915. Respectfully submitted for the Secretary by Bob, WA6ZLO.

Amateur Satellites



WB5ZDP
Kelth Berglund

WorldRadio

Hurray! Dove-OSCAR (DO-17) is back on the air and giving reams of easy to copy packet data on 145.825 MHz with any Packet TNC and an ordinary 2M antenna. The word is that the digitized voice beacon will have been turned on by mid-August. If I get a few requests from you, I'll run an article on what all that data appearing on your screen means.

New satellite

It seems that we have a new satellite on the Amateur bands. The bird is called BADR-1 and was built by students in Pakistan. It was launched on July 16 aboard a Chinese Long March rocket into a 220 x 1000 km elliptical orbit. The launch caught us all by surprise and details on just what this bird is supposed to do are still sketchy.

What is known is that the bird initial-

ly had an AFSK beacon on 145.825 MHz, but now seems to be transmitting just a carrier. It is thought that whatever was aboard the satellite went belly up (it broke). The exact orbit is a mystery also. Given its present geometry, the satellite will probably re-enter in about six months.

New publication

OSCAR Satellite Report is a new subscription-based publication which provides timely information via mail on the latest happenings in the Amateur satellite program. Publication is bi-weekly. OSR is independent of AMSAT, but shares many of its goals and objectives. For those who do not have access to the AMSAT HF or satellite Nets, OSR can be a great source of current information.

OSR is published by R. Myres Communications, PO Box 175, Litchfield, CT. 06756. Subscription rates are \$26.00 per year in the U.S. and, in my opinion, is well worth it.

Mode A

The reason that I keep talking about Mode A is that the equipment is simple, the satellite is easy to work and it's a fantastic learning place to springboard you to other, more complex satellite modes. If you do Mode A for a while, you'll learn all about satellite tracking, transponders, doppler shift and the art of transmitting and receiving at the same time!

Don't think that Mode A is just a sort of satellite version of the Novice license. You'll find that people (myself included) with many years of satellite experience frequent the low altitude Mode A birds quite often.

See 'Satellites' next page

'Satellites' From page 11

Last month we summarized the equipment required to work the Mode A satellites. As you know, Mode A is where you transmit to the satellite transponder (repeater) using 145 MHz, and receive the downlink on 29 MHz. The antennas can be verticals or J-poles or whatever you're already using. Any ordinary HF rig capable of receiving 29 MHz is fine on the downlink. On the 2M uplink side, any way you can generate 10-50 watts (or so) of SSB or CW energy is what it takes. This may mean using an "all mode" 2M rig (the small mobile type is perfectly OK) or a 29 MHz to 145 MHz transmit converter driven by your HF transmitter. Places to locate transverters or just transmit or receive converters include Hamtronics, Spectrum International, Down East Microwave, Advanced Receiver Research, SSB Electronics USA or you can homebrew your own!

As before, I want to urge you to make at least one QSO through RS-10/11. Remember, you don't have to have a permanent satellite station; field day or temporary style is just fine.

The first step is to inventory what gear you have and fill in the blanks on the remainder. You will need the following:

- 29 MHz receiver
- 29 MHz antenna (dipole, Yagi, etc.)
- 2M SSB/CW transmitter
- 2M amplifier (25-100W depending on the TX antenna)

- 2M antenna (Yagi, J-pole, etc.) computer printout of the satellite pass to be worked
- straight-key
- headphones

When you (and the guy who you borrowed the amplifier from) have finally assembled all of the necessary equipment, the next step is to determine when the bird will be over your QTH. The best way to do this is with a computer (see Worldradio, March 1990). With your longitude and latitude entered into the program and a reasonably up to date set of orbital elements, you can get an accurate schedule of when the satellite will be in view.

AMSAT has inexpensive tracking software for most computers and will be happy to see that you get one (302/589-6062). If you don't own a computer, send an SASE and I'll provide you with a schedule print-out stating when RS-10/11 will be over your QTH.

The Mode-A QSO

When you've assembled all of the equipment and you've picked the pass in which you want to participate, it's time to watch the ol' WWV clock and wait. Tune your receiver one or two kHz higher than the beacon frequency (29.357 for RS-10) and listen. The reason that you listen above the real beacon frequency is because the satellite is traveling toward you at three miles per second, the radio waves are compressed and appear as a

See 'Satellites next page

'Satellites' From page 12

slightly higher frequency. What you'll hear first is the CW telemetry of the beacon. Now tune up into the 10M passband and listen to a few QSOs. They're pretty much like HF QSOs with a few twists. The biggest difference is that the QSOs are being conducted full duplex, like a t-telephone, the speaker can be interrupted in mid-sentence. Try that on HF!

When you think that you've got the hang of things, it's time to talk to yourself. I suggest beginning with CW using a straight-key. Pick a place low in the passband that is unoccupied, then play your 2M VFO on a frequency that is exactly 116.5 MHz higher than your 10M VFO. For example, if you are listening to 29.290 MHz, place your 2M VFO on 145.890 MHz. Start out by sending a few dit dit dits while carefully tuning your receive VFO + or - three or four kHz. DO NOT widely swish your transmit VFO up and down the band! When you hear your own downlink, congratulations, you're talking through an orbiting Amateur satellite! It's that simple!

After sending dits for 10 or 15 seconds, you'll notice that the tone of the CW note drifts steadily lower and lower. Again, this is due to the doppler shift and not your receiver drifting. While in QSO, the standard is to correct for doppler by tuning your transmitter and leaving your receiver alone. This prevents QSOs from colliding into each other. Now it's time to make a QSO.

My advice is call CQ and let a more ex-

perienced satelliter find you. Start out by calling CQ as you would on HF. When you find yourself drifting, remember to retune your transmitter only. With the satellite only in view 10 or 20 minutes, QSOs seem to be almost contest style.

On SSB the procedure is much the same. In order to find your own downlink, place your 10M VFO on an unoccupied spot and then place your 2M VFO on the calculated uplink frequency. Fine tune by saying 'hello, hello' a few time while tuning your receive VFO. On SSB, I strongly urge you to use headphones because the sound coming out of the receiver will feedback into the transmitter microphone and cause quite an oscillation (feedback); the effect is exactly the same as placing a microphone too close to a loud-speaker of a public address system.

Next month

Next time we'll survey just which Amateur satellites are now flying (there are 10 at present) and perhaps what is planned for the near future. Remember, the latest satellite info can be found on the AMSAT bulletin board located in Dallas, TX, at 214/387-7438 all day, every day.

**Pay Your ARRL
Membership
Through SARA .
We receive \$2.00
As An Affiliated Club.**

"Buzz...Buzz...Buzz"

By Bob Pinheiro, WA6ZLO

'We hit the street listening to the maddening buzz- buzz-buzz.'

It all started one morning without warning, a nagging buzz...buzz...buzz showing up on my two meter rig. The S-Meter indicated a constant on and off signal hitting S-7. First impression, an electric fence. "But, that can't be!" I said to myself. "This is the middle of the city and nobody would have livestock in their back yard." Several facts were immediately established. (1.) The interference was STRONG. (2) Rhythmic on and off pattern. (3) On for several hours and then off for several hours at a time.

After several days of wondering, I decided to put out a call for some assistance. I was particularly interested in locating a hand-held to check the neighborhood. One call on the repeater brought a friendly response from Mel, WA6OYP, who came right over with his Wilson talkie.

A few minutes later Mel arrived and we hit the street listening to the maddening buzz...buzz and watching the S-Meter. At first we were getting no meter reading on the on the talkie using a rubber duck antenna. We

walked to the head of the court and lost the signal altogether. Walking back towards my home the buzz-buzz could be heard again. A turn to the East and two houses over the buzz got louder and the S-Meter started to pickup. We entered the back yard two houses over and picked up an S-5 reading as we near the back yard fence.

We peered over the fence into the back yard of the home directly behind us and found nothing but a nice neat and clean back yard. And then, without warning, the signal was gone.

The following day at 9 am when I turned the rig on, the signal was back as strong as ever. I grabbed the talkie and my 13 year old son Mitch, and we headed for the neighbor's back yard. Again the signal was S-5 and buzzing. We left the back yard and walked around the block to the street directly behind my home. As we approached the front of the home with the neat and clean back yard we found that it had been recently vacated. The closer to this house we got the louder the buzz and the S-Meter jumped upto S-9. I was puzzled at what could be inside this empty house that was transmitting such a strong signal.

We walked up the sidewalk to the front door and the meter hit the peg and the buzz was deafening. I decided to ring the door

'Buzz' From Page 14

bell just in case there was somebody there. As I pushed the button the buzz disappeared and the silence was bliss.

An examination of the button connections revealed that the twisted bell wire was attached snugly, however, by moving the wires the bell would ring repeatedly. Somewhere, not too far from the button, the wires were shorting together causing the system to stay on for hours on end.

After announcing the good news on the repeater many thoughts were advanced as to what was causing the bell to make and break it's circuit and as to why it would be on and off for hours as if on a timer. After much discussion those in the round-table decided that the most likely cause was the bell's transformer was equipped with a heat sensitive breaker that pulsed on and off as the transformer got hot. It was further speculated that the outside temperature affected the transformer further as the day warmed.

In any event, it was annoying to begin with, but fun looking for and very satisfying locating and eliminating.

-From the SARA Archives 1980

Your Invited!
Next SARA Meeting
October 16, 1990

MEMBERSHIP APPLICATION

Date _____

Call _____

MEMBER OF ARRL? _____

Home Phone _____

Bus. Phone _____

Date of Birth _____

Name _____

Address _____

City _____ Zip _____

Bus. Address _____

Occupation _____

Class of License _____ Year First Licensed _____

FOR OFFICIAL USE ONLY:

Membership year (19)

Entered Roster ()

Treasurer ()

Welcome/Autopatch letter sent: ()

Entered Mail List ()

-- Calendar --

Oct. 12-14, 1990 Pacific Division Convention . . . 3 days
LeBaron Hotel , San Jose

Nov. 20, 1990 SARA Monthly Meeting 730 pm

Dec. 18, 1990 SARA Monthly Meeting 730 pm

Jan. 15, 1991 SARA Monthly Meeting 730 pm

Feb. 19, 1991 SARA Monthly Meeting 730 pm

Mar. 19, 1991 SARA Monthly Meeting 730 pm

Apr. 16, 1991 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 welcome.

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

Bulk Rate
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Address Correction Requested