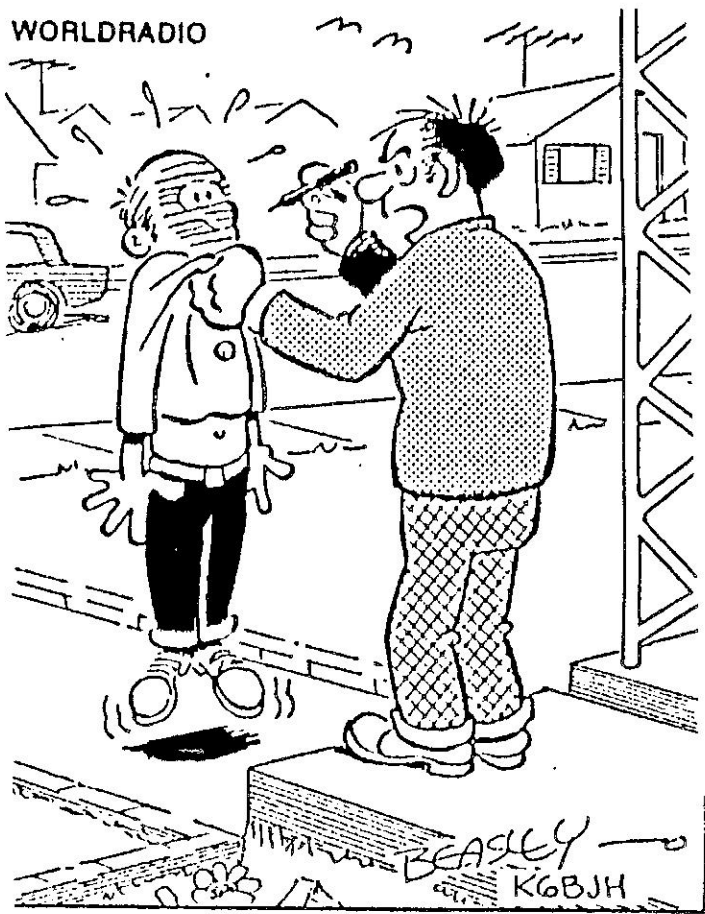


# The READOUT

YEAR 12 NUMBER 2 FEBRUARY 1989



IF THE BARS ON YOUR TV SCREEN  
LOOK LIKE THAT, IT AIN'T ME!

**Stanislaus Amateur Radio Association, Inc.**  
P.O. Box 4601 Modesto, Ca 95352

### The READOUT FACTS

READOUT is the official publication of the Stanislaus Amateur Radio Association Inc. "SARA" P.O. Box 4601, Modesto, CA. 95352. Entered as third class mail at the U.S. Post Office Modesto, CA. 95352. Contributions to The READOUT are always welcome and may be submitted to the editor, Bob Pinheiro, WA6ZLO at 1221 Mist Flower Ct. Modesto, CA. 95355. Permission is granted to reprint articles appearing in The READOUT with appropriate credit. SARA owns and operates two F.M. repeaters. 145.39 MHz (-) located on Mt. Oso, 22 miles SW of Modesto at an elevation of 3,370 feet. Our 220 MHz repeater operates on 223.68 MHz (-) and is also located on Mt. Oso at an elevation of 3,500 feet. Both repeaters are equipped with an autopatch for the use of SARA members. SARA owns and operates a Packet Digipeater, WD6EJF-1 also located on Mt. Oso at 3,500 feet. Frequency is 145.07 MHz. SARA conducts an informational net on both repeaters each Thursday evening at 800 pm with the exception of holidays. SARA meets the third Tuesday of each month at the Stanislaus County Administration building at the corner of 12th and H streets in downtown Modesto. Meetings begin at 730 pm. SARA is incorporated in the State of California, is an affiliated club of the American Radio Relay League (ARRL) and Stanislaus County RACES. Dues are \$20.00 per annum and \$10 for students up to sophomores in college. Dues are prorated for newly joining members from the date they join. ARRL memberships and QST renewals may be made through the club with a \$2.00 commission retained by SARA.

#### PRESIDENT

Phil Hartz.....WDOFFX.....523-9018

#### VICE PRESIDENT

Joanne Shaffer .....N6SAH.....537-5205

#### SECRETARY

Linda Franklin.....N6REB.....537-1123

#### TREASURER

Laverne Landeros....KB6ECF.....578-5554

# HAPPENINGS

## Next SARA Meeting

February, 21, 1989  
Program

Medi-Flight Program

Raffle: Win Money

### 730 pm

# BUDGET COPY CENTER

1325 J STREET  
MODESTO, CA 95354  
TELEPHONE 529-5395



## FORGET SOMETHING?

If your call appears in the list below you have overlooked paying your 1989 SARA Dues. Please fill out the membership renewal form on the inside back page and mail it and your check or money order to the club's post office box. This list was prepared on January 21, 1989. If you have mail in your dues, please disregard and thanks. If you have any questions, contact the SARA Treasurer, Laverne, KB6ECF, at 578-5554.

KA6UPS	K6SEZ	N6RDX	N6OPE	KB6BJH	N6LAB	KB6GMU	N6QOH
KB6GYM	KI6YQ	N6PMG	KB6NDV	WA6FBE	NW6G	KB6TYV	WA6HRC
N6KDJ	KJ6CK	N6OCV	KB6VDQ	N6MSB	N6JYP	WA6KTK	K6BII
	KB6VI	N6JTD	N6SGT			N6IPH	KA6CXR
WA6OOX			N6SZZ	N6OGN	N6MOL	W6KNQ	WB6UJD
	W6KU	WG6P	NU6O	N6SKU	N6OCS	N6EEX	WA6TIB
WB6SHE	K6SXF	N6QD	NQ6H	KJ6DL	KB6KYI	N6GGB	
		WD6CMI	N6RSS		KI6WB	N6QEG	KJ6Q
N6TIU	N6MOK	PLEASE PAY YOUR DUES TODAY!					

# SEX!

We don't know much about it. We just wanted to get your attention. We'll do anything to get your attention. Your 1989 dues are overdue.

## MAIL ORDER SCAM SNAGS HAMS

Postal inspectors are investigating what appears to be a ham radio equipment sales scam operating from Long Island, N.Y. Inspectors have focused their attention on the activities of Michael Harrison (call believed to be WB2PTI) and John McNamara in connection with a possible mail fraud carried out against ham radio operators that could total as much as six figures in losses. The suspected scam began with a two-color full-page ad in the December issue of 73 Magazine advertising the supposed rebirth of the Atlas Radio Company which folded several years ago. The ad alleged that Atlas was back in business and was offering the President 10-meter HR-2510 mobile transceiver built by Uniden for \$219.95 prepaid to all fifty states. (It sells for \$205 wholesale from Uniden). The ad claimed that Atlas and Uniden has joined forces to market the 2510. Many Amateurs placed orders and sent their checks which were promptly cashed. NO UNITS WERE EVER SHIPPED! In addition the number listed for Atlas is an answering machine that also responds to Dentron, Inc. ads. Dentron is also out of business and Atlas was liquidated in 1979. According to Dennis Had, K8KXK of Raleigh, NC, the founder and original owner of Dentron, he is very much aware of Michael Harrison's dealing. He said that Harrison cost him some \$14,000 back in 1979 and uses assumed names. Most Amateur publications know him and will not accept advertizing from him.

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Harley Bush  
N6TIV



Kurt Dahdah  
N1CYH



Oliver Borns, Jr.  
WA6HHO

Welcome to these new SARA members.

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## WA6DXO SILENT KEY

Retired MJC teacher Everett W. Linscott, WA6DXO, passed away January 24, 1989 at the age of 66. He was a longtime member of the Turlock Amateur Radio Club and was a member of the MJC Literature and Language Arts Departments before retiring in 1987. He leaves a wife and two children. Remembrances to the American Cancer Society.

# EDITOR'S NOTES

By Bob Pinheiro, WA6ZLO

Please check the list on page 3 and see if your call is on it. If it is, it means that you have FORGOTTEN TO PAY YOUR 1989 DUES and we will have to drop your name from the roster. In addition, this will be the last newsletter you will get. If you sent in your dues after January 20, 1989, please disregard this notice and thank you! If not, use the renewal form on the inside back page of this newsletter, and mail it and your check or money order to the club's post office box today. If you have any questions about your membership, please call the Treasurer, Laverne, 578-5554. WELCOME N6REB AND KJ6CH to Packet. Linda and Chas are using a PK-232 TNC. In addition to the fun, it's a great help to Linda, our new club Secretary, and me, because she is able to send the monthly minutes to me by Packet. It's quick, efficient and saves the club money. As a matter of fact, several stories you see in The READOUT each month come to me by way of Packet, including the DXNotes, The Technical Report and other miscellaneous stories. A great tool! THE AUTO-PATCH has been moved to Steve, N6EKV's home in Modesto. As expected, some problems have surfaced with the unit and the club's technical people are working on it. As of this writing, (Jan. 21), it's still not 100%, but it's getting there. THE 10 METER club get-

together is gaining in popularity. Two sessions are held each week. On Wednesdays at 8 pm at 28.405 and Thursdays following the SARA 2 meter net on 28.440 MHz. Novices and Technicians are particularly welcome. CONGRATULATIONS TO KIRSTEN STORNE, KB6MBN, who upgraded to Technician in Sacramento last month. Kirsten is the daughter of Jack, WA6CYR and Wilma, WB6ISA. Kirsten is 16! THE W6FGC-2 PACKET BBS has changed frequencies to 144.97 from 145.07 MHz. The move was made because of congestion on the frequency caused by the Bay Area (where have we heard that one before?). As a result, you no longer can reach it via our digi on Mt. Oso on 145.07. However, WA6MUT, located at 5,000 feet above Twain Harte is operating as a digi on 144.97 and you should be able to reach FGC-2 through MUT. DONATIONS OF MATERIALS for the two meter building are starting to come in thanks to the generosity of our members. We still need 4 X 4 Douglas Fir (or Redwood) pressure treated at various lengths; random lengths of corrugated metal siding; random lengths of 1 X 4 or 1 X 6 D.F. construction grade and 12 concrete pier blocks. If you have any of these items, please call me any evening or on Saturday or Sunday and let me know. And a big "thank you" to all of you that have already donated. GLASNOT has come to the

## EDITOR'S NOTES

(From Page 5)

shortwave dial. Jamming of Radio Free Europe ended on December 23. The station had been jammed continuously since it went on the air in 1951. The Soviet Union also stopped interfering with RFE's sister station, Radio Liberty, on November 29th after 35 years. Now if we could get them to silence the "woodpecker", we would really have something. A COMPUTER GUIDED LAWN MOWER has been unveiled by a Sterling, VA. company. A robot lawnmower follows the pattern of long grass until its sensor detects only blades at a prescribed height. It will sell for around \$800. I can see it now! A neighborhood ham fires up on 10 meters with a kilowatt and zaps the robots brain. Result...one out of control robot. Kids, dogs and cats running for their lives and the neighbor looking for you when the robot comes to rest in her favorite flower bed after chewing up her favorite roses. I wonder if our RFI committee would be able to solve that one! MINI-PHONE INC. of Midland, TX is marketing sanitary disposable telephones to hospitals. Not only do they stop the spread of disease and infections, they also help hospitals cut maintenance costs and increase their profits on their telephone service. Hospitals pay \$9.00 for

each phone and bill the patient \$12.00. Currently, hospitals buy standard telephones for up to \$75 each and rent them to patients. Then they have the expense of disinfecting them after use. A considerable savings! DID YOU KNOW that there are 21 radio beacons in space which comprise the Global Positioning System? The system can pinpoint your location to within 200 feet. Another new gadget is a computer in your car which will have information on hotels and restaurants as you drive across country. And when you want to stop, you will call up the information on restaurants and motels in the area. You will be warned if you make a wrong turn. Another use of on board car computers is currently available in the form of electronic road maps. They are available in California if you can afford them (\$1,400), which not only tell you where you are, but the best way to get to your destination. An arrow marks your car's position on a green street grid on a 4.5" dashboard monitor. As the car moves, the map display moves with it, rotating as the car turns to match what you see. I wonder when they are going to come with something to silence back-seat drivers? 73. Bob.

## Old Age Is Hell!

The body gets stiff  
You get cramps in your legs  
Corns on your feet as big as hen's eggs.  
Gas in stomach  
Elimination is poor  
Exlax at night, but still not sure  
Soak in the tub, or your body will smell  
It's just like I said, OLD AGE IS HELL!

Teeth start decaying  
Eye sight poor  
Everything hurts  
What doesn't hurt, doesn't work  
Hair falling out all over the floor  
Sex life is shot, it's a thing of the past  
Don't kid yourself friend, even that doesn't last.  
Can't go to parties, don't dance anymore  
Just putting it mildly, you're a helluva bore

Liquor is out, can't take a chance  
Bladder is weak, might pee in your pants  
Nothing to plan for, nothing to expect  
Just the mailman with your disability check.  
So, if this season you feel fairly well  
Thank God you're alive, although  
OLD AGE IS HELL.

(Thanks Oakie, K6SJV, Forest Grove, Or.)

## NEW CLOCK FOR UNCLE SAM

The National Institute of Standards and Technology (NIST), formerly the National Bureau of Standards, has a new clock. Their previous atomic clock counted the oscillations of the nitrogen atom in an ammonia molecule and was accurate to within one second in three years. NIST's new clock is based on the vibrations of cesium atoms and won't lose or gain a single second for 300,000 years! For most of us, a quartz crystal keeps us accurate enough—plus or minus a couple of minutes a year. (W5YI Report)

# DX NOTEBOOK

By Tom Farr, WJ6O & Denny Dugal, WG6P

Can't believe how the days fly by! Here we are typing this out in the new year. Another whole year in which to work DX! Hope everyone got exactly what they wanted from Santa. I see many lads got TNC's to check out the local BBS's and even a few are braving the stomach butterflies and getting attached to the DX packet-cluster. Notables in that area are KB6DJ, K7INK, and N6QOH, to name a few. Jump in and get your feet wet guys! The hottest thing on the bands at this writing is the VK9ZM/ZW DXpedition to Mellish Reef and Willis Island off the coast of Australia. With some difficulty the Mellish Reef part of the trip got done. Landing on a reef is known to be hazardous to one's health in the best of seas, but these crazies didn't disappoint the deserving. They persevered and were QRV one day late. Just adds to the drama for us DX'ers waiting to bag a new one. Willis should be an equally successful stint given the caliber of the operators attending to the pileups from that end. I hope you filled in your logs with all of the bands and modes you needed. Remember your S.A.S.E.'s and a green stamp if you are so inclined, to support these sort of efforts. Such an jaunt is a very costly undertaking. The VU Laccadives jaunt off of India seems to be on hold for the moment. SU1-EE handing out lots of QSO's and

the QSL route is a good one direct to Cairo via the F.P.O. address. Heretofore, SU has been tough, so take advantage of this opportunity to fill out your band country needs for both DXCC and WAZ with this active chap. 3W0A still in the offing. VP5 seems to be really a popular spot to set up a rig and generate a pileup from these days. Guys starting already to gear up for the spring contests. Should be substantial band openings to accommodate those who want to get in there and work them. Contests can be attacked at any pace you desire. You certainly don't have to go all out, have a big station, or submit an entry to get in and have fun. Work the fringes of the contest activity and give someone in the contest a point or two. It really can be fun passing out exchanges. The solar flux index is approaching that magical 300 mark. This is the point at which all of the upper bands seem to magically come alive for DX'ers. As the pundit once said, "You ain't seen nothing yet!" Even six meters is coming back. Watch for dynamite late evening openings on 10, 15, and mostly 20. Also very exotic DX on 40 in the late afternoons just before sundown. Europe coming through on that band with regularity, as well as Africa and smatterings of the mideast. Conversely, at sunrise and beyond, long path go



## DXNOTES

(Continued)

-odies piping through daily. The DX is there lads! Go get it! Monitor WWV for current DX information at eighteen minutes after the hour. It will advise of propagation data and solar flare activity. These reports are good gauges of anticipated band conditions and should not be overlooked by the DX'er. The "A" index, or absorbance, has been making wide swings. If the "A" and "K" numbers are high, the DX is still there. It is just hard to hear and work. The best measure seems to be to listen on the bands and to slide by active net frequencies to see how loud the DX is coming through. The louder it is, the better your chances of working the part of the world you are hearing so strongly. Well, that is about it for this month. Good luck in chasing those rare ones. As always, Denny and I are available with the latest haps and QSL info. Should you need help, please don't hesitate to ask. 73 and CU on the bands! DE Tommy, WJ60 and Denny, WG6P.

## HOT SHOT

During WW II there was a shortage of skilled CW operators. It seems a beginner was communicating with another station down the line. Hired right out of telegraph school, the neophyte fancied himself as a "hotshot" operator, so he was keying his bug as fast as he could go when the operator at the other end of the line broke in with, "REND STOW IMA GIRT." That set the hotshot back a bit, so he repeated the message. Again the other station sent, "REND STOW IMA GIRT". "What in hell is wrong with that operator?" the hotshot asked of the senior operator on duty. "Nothing," said the old timer, "she's saying "SEND SLOW I'M A GIRL." You've gotta learn the difference between R and S and T and L. Didn't they teach you anything in school?" The hotshot rookie didn't answer, he just slowed down.

Tnx WorldRadio & WOLHS.

## ARRL RENEWALS THROUGH SARA

Please remember, SARA is an affiliated club of the ARRL and you can renew your ARRL membership through SARA. We make a \$2.00 commission for each renewal and \$5.00 for any new members joining the ARRL via SARA. Send your check for the full membership amount made payable to SARA. We will deduct our commission and send the ARRL our check for the difference. Please remember to make your check payable to "SARA" and not the ARRL. Thank you!

# ON THE AGENDA

The January 17, 1989 meeting was called to order by President Phil, WDOFFX, at 7:30 pm. Followed by his welcome to all, introductions were made by 38 members and guests. Minutes of the previous meeting were read from the READOUT by the secretary Linda, N6REB and approved as read. The Treasurers report was given by Laverne, KB6ECF and also approved as read. Balance as of Jan. 1, 1989 was \$1,875.55. With the transfer of \$331.50 from the raffle monies received to the Club Station fund, brought it's fund total to \$472.50. Leroy NV6S, reported that the auto-patch has something defective and needs to be checked out further, and a trip back up the hill is needed to adjust the antennas. Phil, WDOFFX, asked for a report on the repeater building. Bob, WA6ZLO, said he had received a few calls on donations of needed materials, and that Glen, KA6WBY and Bill WB6SHE are still checking out means to get the box up the hill. Bob also said since the weather has prevented any construction work on the hill, pouring concrete for the foundation will have to take place this spring. Phil, WDOFFX, read the list of materials needed and asked that anyone wishing to donate materials, funds, or elbow grease towards this project, to please contact Bob, WA6ZLO. Continuing with old business, Laverne, KB6ECF informed those in attendance that at an executive meeting the club officers voted to take the \$50.00 approved for flowers for silent key Ray, WA6-

OQF, and send a check for that amount in Ray's name to the Heart Fund, since Ray had requested there be no service. There were no objections. Phil, WDOFFX, passed out copies of the list of committees for 1989. He said the objectives of these committees will be to deal with (1)-club functions and entertainment. (2)-the repeater, and (3) the club station. There are eight committees: Technical, Education and Training, Club Station, Entertainment, Membership, Special Events, Fund Raising and Nominating. These will be on going and open to any member of SARA. The goal is to have each member be involved in one or another of the clubs activities and functions. Leroy, NV6S, reported that the clubs old crystal-controlled service monitor is in need of 10 new crystals so it can be used again. He said he has been borrowing equipment to service the repeater equipment. Denny, WG6P, made a motion that the club establish and maintain a separate fund from the club station fund, for catastrophic maintenance and equipment replacement for the club's repeater equipment, and that said fund be based on 10% of membership dues, retroactive to the 1st of January, 1989. After discussion on the motion, it was seconded and approved. Another motion was introduced to authorize Leroy, NV6S, to spend up to \$200.00 from the main club treasury for the crystals for the old Cushman service monitor. This motion was also seconded

and approved. Concerns dealing with the 220 and 2 meter link were discussed, and it was agreed the present rules should stay as is. Jim, N6KMR, suggested that the Thursday night informal SARA rag chew on 28.440 Mhz at 8 pm, continue each week with everyones participation. This weekly get together on 10 meters will help the new Novice and Tech operators gain confidence and experience, as well as improving their operating skills. Break was at 8:49pm. Following the break a request was made by Phil, WDOFFX, that if anyone had anything that they wanted discussed, or ideas for the club, to please contact any of the club officers so it could be placed on the agenda for the next club meeting. The program began at 9:10 pm with Frank Ashby, W6AJU, introducing his friend Len Wickstrom, W7ZZL, from

Soldotna, Alaska. Len is originally from Tacoma, Washington but is now working at a missionary aviation repair service in Alaska. He said up there they depend upon the airplane like we do a car, because of the terrain. After a very well presented show of slides of Alaska and it's native inhabitants. FFX, commented on looking into free extended phone service for a 40 mile radius for the autopatch, but there are no freebies from the phone company. It would cost \$4.65 a month to have the extended service and only a 30% discount on long-distance calls, so Phil said it wasn't a feasible advantage for the club. Also he announced that the next meeting on Feb.21, would be held in the usual place. Meeting was adjourned at 9:45pm. Respectfully submitted by SARA secretary, Linda, N6REB.

(Via Packet @ WB6V-2 BBS)

## NEW TELEPHONE CALLING OPTIONS

Southwestern Bell Telephone is testing a new range of calling options. CALL RETURN redials the last incoming call. CALL CUE redials the last outgoing call and can "camp on" a busy signal to put the call through as soon as the line is available. CALL TRACE can trace any incoming call to its originating number. CALL BLOCKER stops in

coming calls from up to three telephone numbers specified by the customer. PRIORITY CALL identifies up to three incoming calls (from numbers specified by the customer) with a distinctive ring. The new services are designed to offer residences and business phone users more control and security of their telephones. (WSYI Report)

The MEDI-FLIGHT emergency helicopter service will be the topic of our speaker and program for the next SARA meeting on February 17th. Don't miss it. 730 pm.

## POOR PLANNING

"I am writing in response to your request for additional information on my insurance claim. In block # 3 of the accident report form, I wrote, " poor planning" as the cause of the accident. You said in your letter that I should be more explicit. I trust the following explanation will be sufficient. I am an Amateur radio operator. On the day of the accident I was working alone on the top section of my new 80ft. antenna tower. When I had completed my work, I discovered that I had, over the course of several trips up the tower, brought up about 300 pounds of tools and spare hardware. Rather than carry the now unneeded tools and material down by hand, I decided to lower the items in a small bucket by using a pulley which, fortunately, was attached to the gin pole at the top of the tower. Securing the rope at ground level, I went to the top of the tower and loaded the tools and materials into the bucket. Then I climbed down to the base and untied the rope, holding it tightly to insure a slow descent of the 300 pounds of tools. You will note in block # 11 of the my original accident report that my weight is 155 pounds. Due to my surprise at being jerked off the ground suddenly, I lost my presence of mind and forgot to let go of the rope. Needless to say, I proceeded

at a rather rapid rate up the side of the tower in proportion to the descent of the bucket. In the vicinity of the 40 foot level, I met the bucket coming down. This explains my fractured skull and broken collarbone. Slowed only slightly, I continued my ascent not stopping until the fingers of my right hand were two knuckles deep into the pulley at the top. Fortunately, by this time I had regained my presence of mind and was able to hold on to the rope in spite of my pain. At approximately the same time, however, the bucket hit the ground and spill all the tools on the ground. Devoid of the weight of the tools, the bucket now weigh approximately 20 pounds. Now, of course, I weight more than the empty bucket and I began a rapid descent down the side of the tower. Again, at the 40 foot level, I met the bucket on it's way up. This accounts for the two fractured ankles and the lacerations of my legs and lower body. The encounter with the bucket slowed me enough to lessen my injuries when I landed on the pile of tools at the base of the tower and, fortunately, only three vertebrae were cracked. At this time I finally let go of the rope which accounts for my bruised buttocks when the bucket came to it's final resting place. "

(Thanks Jerry, K7YCI)

## MEXICO TEMPORARY HAM LICENSES

Mexico is now issuing temporary licenses to ham radio operators wishing to operate in their country. Although no formal reciprocal licensing agreement has been signed, the Mexican license has been available for about a year and a half. Ever since the big Mexican earthquake, it's literally been a breeze to obtain a set of XE2 call letters for your stay in Mexico. The interesting thing to note is that you receive a Mexican class "General License" regardless of the class of license you hold here.

So, if your a Novice here, your immediately a General there with voice privileges on all worldwide bands with a maximum power limit of 250 watts. Now for the bad news! The only way you can get the license is to physically go to Mexico and do the paperwork. You can't go to your nearby Mexican Consulate in this Country and do it, and you can't write to Mexican Authorities and do it either. So, if you are serious about getting this temporary license, follow these steps.

1. Make 5 copies of your valid U.S. Amateur License. Any grade, including Novice is acceptable and 5 copies of your birth certificate.
2. Obtain a Mexican tourist card or Visa and make 5 copies of that.
3. Obtain from the Mexican consulate Mexican Form HD-1.
4. Go to any major Mexican city (Tijuana is the closest) and find the office of "Secretaria De Comunicaciones Y Transportaciones." (SCT)
5. SCT will fill out some paperwork and then send you down the street to the Department De Hacienda or "General De Normatividad Y Control de Comunicaciones, Delegacion Regional, where you pay your license fee. The fee is 50,000 pesos which is a little less than \$50 American.
6. Once you have the receipt for payment of the fee, return to the SCT office and follow their instructions. Don't get pushy, and smile a lot. Usually the license (XE----) will be issued on the spot. However, in smaller cities, they may ask you to come back in a few days.
7. The license will be good for the term of your tourist or visa permit and can be renewed along with the those permits.
8. To renew, recontact the SCT. You need to submit a log book filled with all of your communications. The fee is around 9,000 pesos (less than \$10).

It helps to be able to speak a little Mexican too. They may ask you for a letter of recommendation from a local Mexican Amateur to act as

your sponsor. Usually they don't ask for this, but if you can get it ahead of time, it may prove beneficial. (WorldRadio, WB6NOA)

## COMPUTERS VIRUSES

By Joe Toy, WB6KAI

Recently there has been much publicity in the news about computer "viruses". Much was said about how a virus can spread from one computer to another and about its bad effects, but there was little explanation of just what a virus is and how they work. Computer viruses are small programs written by mischievous individuals that produce unexpected and unwanted effects in a computer. They originally were attached to certain public domain (free) programs that passed around from one computer owner to another. When the program was run, the virus portion would do things like erasing files on disk, print out false messages and copy itself to other programs. These programs were named viruses because of the way they appeared to "infect" one computer after another. Since there are many public domain (free) programs that we hams pass around among ourselves, we are most vulnerable to this kind of problem. How can we protect ourselves from these unwanted invad-

ers? The first line of defense is having complete backup copies of every program and data file. If a virus is detected, the computer can be shut down to erase memory, and any diskettes that were recently used can also be erased. Then the system can be started up again with the clean backup copies. When using a diskette with a new program, put a write protect tab on the diskette which will prevent any attempts to write to it. An error message will appear on the screen which will provide a clue to the possible presence of a virus. Programs have now been written which will look for viruses. They generally search the program for instructions that will copy or write to disk. Viruses must do this in order to infect the computer. Viruses do not always make themselves known the first time an infected program is run. Hence, a "vaccine" type of program may be useful.

(Thanks Golden Empire Radio Society, Chico)

## SARA AUTOPATCH BACK IN SERVICE

The SARA autopatch is back in service as of January 21, 1989. The downlink portion of the system is now located at Steve, N6EKV's home. There are no changes in the codes. The ID'er level has been lowered and is consistent with the overall output level. Your patience has been appreciated while it was out of service.