

The READOUT

Year 14

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March 1992

Supreme Court To Rule On Out-of-State Sales Tax Collection

The days of shopping by mail-order and toll free 800 numbers maybe coming to an end. The out-of-state sales tax issue is expected to be heard by the U.S. Supreme Court this month with a decision expected in six weeks.

The U.S. Supreme Court first ruled on the issue in 1967 in their *Bellas Hess* decision that a mail-order company didn't have to collect sales tax from out-of-state customers unless the company had a significant business presence in that state.

The issue is being revisited by the Court as a result of a case out of North Dakota brought by the North Dakota State Department of Revenue against the Quill Mail Order Company of Illinois who markets business supplies by mail order. The North Dakota Supreme Court ruled that Quill must collect sales tax from North Dakota

residents.

If the U.S. Supreme Court agrees with the North Dakota Court, it will affect all states and customers will have to pay their state's sales tax on any mail-order transaction, no matter where the company you are buying from is located. This will result in massive record-keeping duties, collecting taxes at different rates for hundreds of jurisdictions throughout the country and forwarding the money to those jurisdictions.

Additionally, there is considerable concern should the court order the collection of taxes, they may make the order retroactive which would be the mail-order marketers' worst nightmare. If the tax is imposed, it will force many smaller mail-order companies out of business and force up the prices on those remaining.

Fresno Hamfest Set May 1-2-3

It appears this years Fresno Hamfest is going to be a good one. Plans for the ARRL/San Joaquin Valley sectional convention on May 1, 2 and 3, 1992 are coming to fruition.

The hamfest will be held at the Airport Holiday Inn in Fresno and will be packed with local and out-of-state Amateur radio talent including Bill Brown, WB8ELK, Bill Pasternak, WA6ITF and Gordon West, WB6NOA.

Besides current ARRL radio issues, the

program will include continuous ATV transmissions and WEFAX, MARS, WPSS, VE exams, VHF/UHF info, swap tables, operating stations and packet with a DX cluster exhibit.

One of the commercial exhibitors will be Ham Radio Outlet with lots of new goodies to show off.

There is a hotline number available for the hamfest should you have any questions. 209-224-0233 which is good 24 hours a day.

Inside

Touch Tone Access Installed on .39.....	2
Old Timers Club Honor Roll.....	3
Air Duster Abuse Deadly.....	3
Editor's Notes.....	4
Tech Notes From ZUC.....	5
Pacsat News.....	6
Living in New England is Fantastic.....	7
SARA Minutes.....	8
AMSAT Phase 3D Satellites.....	11

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Thursdays @ 8 p.m.

(Except Holidays)

2 meters 145.39 MHz WD6EJF

220 Band 224.14 MHz WD6EJF

10 Meter 28.440 kHz USB

Tuesdays at 800 pm.

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

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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.

Touch Tone Access Mode Installed On .39

By LeRoy Campbell, NV6S

Hello from the radio room of NV6S. We have been experiencing Interference problems on the two meter machine as most of you are aware. There are methods to combat this and one of the most effective combatants is simply ignoring the Interference. That hasn't been real effective in this case. To make the repeater more pleasant to listen to during periods of such Interference I have installed a feature on our controller which allows our users to take the repeater off the air and bring it back up with the touch tone pad.

This function must be enabled or disabled by a control operator. Once enabled, the repeater will function normally as long as conversations are going on. When the repeater fails to see an input for three minutes, it will automatically turn off. At this point, the repeater will not respond to an input and will appear to be dead.

The user code of 1, 2, 3, 1 will bring the repeater back into operation. At that time it will respond by saying "up" and it will stay active for as long as there is activity or for three minutes if no activity is present. We would ask that you ID by giving your call sign after bringing the

repeater up. If there is a serious Interference problem the user may take it down after use by using the code 1, 2, 3, 0. At this time the repeater will ID and go to sleep. Once again we would ask that you identify your station when taking the repeater down.

We would prefer that these codes not be given out over the air especially at a time when problems exist. However they are not intended to restrict use of the repeater and as always everyone wishing to use the repeater is welcome to do so. This is not restricted to members and you are free to give the codes to other users at your discretion.

Our control operators still have complete control of the repeater and may enable or disable this function as needed. I would hope the function will not need to be used on a long term basis but it can be activated as needed.

I apologize for any inconvenience this may create however the step has been made necessary. I thank everyone for their cooperation. 73, LeRoy

Touch Tone Access

Codes

1-2-3-0 = Turns Repeater Off

1-2-3-1 = Turns Repeater On

Old Timers Club

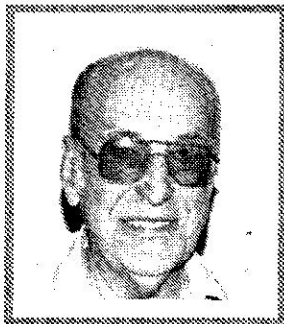
Members Licensed 30 Years Or More

By Ernie Rader, K6UVI

It's come to my attention that there are several *REAL* Old Timers in the club. Would you like to know who they are? Here is a list of *SARA* members who have been licensed, according to the membership renewals, for over 30 years.

Boyd	W6DSM	51 years
Jim	W6SQP	51 years
Ivan	W6SKH	51 years
John	N6QD	45 years
Charles	W6ASO	44 years
Ed	W6GIW	42 years
Don	KK6SF	41 years
Bill	W6AFS	41 years
Max	W6GYN	40 years
Don	K2OXU	39 years
Jim	WA6NSK	38 years
Pat	K6AYA	38 years
Cal	K6BII	38 years
Charlie	K6SWW	35 years
Dan	W6SBE	35 years
Ernie	K6UVI	35 years
Vorus	WA6LJB	34 years
Bob	N6OCS	34 years
Frank	W6NLX	34 years
Larry	WB6GJT	33 years
Dave	WA6GUO	33 years
Tony	WA6KOI	32 years
Dan	WA6KDC	32 years
Bill	WA6OHP	31 years
Mel	WA6OYP	31 years
Bob	WA6ZLO	30 years
George	K1TKJ	30 years
Frank	WA6IXA	30 years
Bill	WB9CYB	30 years

Quite an impressive list isn't it? However, the Grand Daddy of us all, and the one that should win the "Golden Mike" award (if there were one) is: **Bob Huff, W6KU.** **Bob has been licensed since 1925! He's been a ham for 66 years.** Congratulations Bob, and may you have many more years.



Air Duster Abuse Deadly to Teenagers

Pressurized gas canisters known as "air dusters" are used to blow dust from computer and radio circuits, camera lenses and stereos. The gas is invisible, virtually odorless and is perfectly safe when used for its intended purpose. However, teenagers are abusing such products by placing the trigger-shaped nozzles in their nostrils and inhaling the what amounts to the "breath of death".

Some teens think they are simply getting a cheap "high" by sniffing the canned air...they could not be more wrong. The dusters contain chemical solvents and usually contain a form of freon, which can deliver a heart-stopping high in a matter of moments.

Drug abusers have long inhaled the intoxicating and sometimes fragrant fumes of chemicals used to make industrial and household products like airplane glue, hair spray, nail polish, Freon, automobile gasket sealer, paint and gasoline. But, what a lot of kids don't realize is this stuff can literally kill you without warning.

Inhalant abuse killed at least 20 people nationwide in 1990, the latest year for which statistics from the American Association of Poison Control Centers are available.

Sudden death is one of the extreme dangers associated with chlorodifluoromethane, or Freon-12, typically used as a refrigerant and a propellant in pressured containers. It has no intoxicating properties of its own, but it starves the brain of oxygen, causing giddiness and dizziness and can cause fatal cardiac arrhythmia. It disrupts the heart's rhythmic

For
SALE

FT DX570 Yaesu transceiver in fine condition with desk mike UD-844 and manual \$235.00. Also, Yaesu speaker/phone SP401P \$70.00. Call Larry, N6FMW, 578-5319.



Editor's Notes

By Bob Pinheiro, WA6ZLO

Welcome new members Charles Herrington, KD6DTR of Modesto and Richard Addison, KD6BOR, of Sacramento. Both men are Technicians. Welcome back Jerry Nichols, KL7GHT. Jerry is a television engineer who lived in Modesto several years before moving to Salem, Oregon where he works for channel 22. His wife is Flo, KL7GHV. Welcome back Frank Ashby, W6AJU, of Modesto. Frank retired several years ago and moved to Washington State two years ago after the death of his wife. Welcome back Frank!

- George Wilson, W4OYI, has been elected President of the Board of Directors of the ARRL succeeding Dr. Larry E. Price, W4RS. Wilson is an Attorney from Owensboro, Kentucky.

- The FCC has a new address for all Amateur Radio License applications and modifications. It is Federal Communications Commission, 1270 Fairfield Road, Gettysburg, PA 17325-7245.

- Space Shuttle STS-45 has been granted FCC approval for the licensed Amateurs\ astronauts aboard the flight to operate Amateur Radio from space.

- The International DX convention will be held April 10-12, 1992 in Visalia, CA. The ARRL San Joaquin Valley Section convention and 50th Fresno Hamfest will be held May 1-2-3, 1992 at the Airport Holiday Inn in Fresno. Hamcon 92, the ARRL National convention, will be held at the Los Angeles Marriott Hotel August 20-23, 1992. The

SIERA Hamfest and computer faire will be held October 10, 1992 at the Carson Valley Inn in Minden, NV and the ARRL Pacific Division Convention will be held in Concord October 16-18, 1992.

- The WARC '92 conference began February 3, 1992 in Torremolinos, Spain with 1,000 delegates from 113 countries in attendance. ITU Secretary-General Pekka Tarjanne of Finland opened the conference, calling the new century, just eight years away, the century of telecommunications. The conference delegates were assigned to various committees and subcommittees to debate the issues and develop consensus. The final conference report will be issued in early March.

- With the weather improving you will no doubt have the urge to get out to a swap meet. The Livermore Swap Meet is held the first Sunday of each month at Los Posites College in Livermore from 7 am to noon all year long. The Foothill Swap Meet is held the second Saturday of each month March through September at Foothill College in Los Altos, CA. Talk-in is on 145.27 MHz or 224.360 with a 100 Hz access tone.

- I came across this story in WorldRadio this past month which has far reaching and expensive implications. READ and HEED if you plan to buy a new car, or late model, with an electronic ignition. "It may benefit other radio Amateurs to be aware of the disaster I experienced recently. I purchased a new 1992

Toyota Camry for my XYL, KN4CO. I had her transceiver (a Kenwood 231A 2M) transferred from her 1987 Camry to her new vehicle. All the equipment and wiring was placed in the same location as her previous car. The changeover was done by a commercial two-way radio shop.

"On the first transmission various alarm lights appeared on the dash and remained on. I took the car to the dealer and he informed me my radio equipment had damaged the main computer which would have to be replaced at my expense of \$1,115.

"He then produced a shop manual which states that at no time can you operate two-way radio equipment that exceeds 10 watts output in the 1992 Camry, regardless of how it is installed.

"I had no choice except to pay for the repairs, but the sad part is that my XYL cannot operate her radio in the new vehicle. When purchasing any vehicle, be sure to check with the dealer or your mechanic about such an installation before you buy. -John Harman, W8JH, Taveres, FL."

- Next month we will have a story and photograph of Gary, KJ6Q, of Vacaville. For many years Gary has helped in the preparation of *The READOUT* by half-toning all the photos you see. We greatly appreciate his time, effort and expertise. Thanks again Gary!

- The next meeting of the club will be March 17, 1992 at the usual place. I hope you can attend. That's it for this month. 73, Bob

Build Your Own Power Supply

Part 2

By Tim Low, N6ZUC

Last month we began looking at the common station supply and how it's put together. To review, a supply is made of four (4) basic areas. The first two, transformation and rectification, which we discussed last month, and the remaining areas, filtering and regulation. Let's look at these now.

After the first two stages, we now have raw DC. Even as good as the rectifier is at doing it's job, a small amount of AC called ripple voltage remains. I'm sure you've heard someone on the air with a real bad hum in their audio. This is caused by poor filtering in the supply. To be fair to your supply, there are other things that can sound like this, but chances are it's the supply.

There are two basic devices used to filter out this residual AC, and they are the capacitor and the inductor. In most cases the capacitor does a good job all by its self. Not just any type of capacitor will work. A specialized cap called an electrolytic is used. This cap is polarized. In other words, it has a positive and negative terminal.

This electrolytic capacitor is placed across the output of the rectifier, observing proper polarity of course. When power is applied, the capacitor charges. This charged capacitor then fills in the slight negative movement in the DC voltage caused by the ripple voltage. This is a smoothing effect. The proper value capacitor must be chosen so it will charge and discharge at the rate of the ripple voltage.

A capacitor therefore attempts to maintain a constant voltage in the circuit. An inductor, if used, would help filter by attempting to maintain a constant current. If you'll remember back to our look at the transformer, when current is applied to a coil, it sets up a magnetic field about it. When this field collapses during the negative part of the AC cycle, the falling magnetic lines cause a current to flow in the coil. Again, the inductor attempts to maintain a constant current flow.

After filtering, the next step is regulation. Regulation is important as we need a constant 12 to 14 volts to run our equipment. The more common causes for the power supply output to change are the effects of a changing load, such as going from receive to transmit, and from fluctuations in the AC line voltage. This varying voltage is normal, and usually not great, but can effect the output of an unregulated supply by a volt or two.

The big factor is that of loading. On an unregulated supply when there is no or little load, the supply remains at a near constant output. When the load changes, such as keying up a hundred watts or so, the loading can reduce the supply output drastically. This is why regulation is important.

Generally there are a couple of different configurations used for regulation. The type employed is dependent on the output current of the supply. The simplest is called a linear IC regulator. This is a black box approach. A voltage is applied to the input, and as long as the input voltage and the load stay within tolerance, the output voltage will remain constant. If you think back to last month, you'll recall I mentioned the raw DC should be on the order of 18 volts or so. This is because the regulator input voltage must

be above its full output voltage in order to work. Most of them like an input from 16 to as high as 35 volts in some devices. This gives the power supply designer and builder much leeway when picking out a good transformer.

Now the drawback. IC voltage regulators in most cases won't supply the current needed by the amateur station. The devices are generally used for low current demand applications. Under an amp or so. There is a new device on the market that will handle up to 20 amps, though they are in short supply, and are somewhat on the expensive side. I think soon they'll be available, and even the 20 amp rating pushed up.

The practice up to now to get high current regulation, was to team up this regulator with pass transistors. The pass transistor is no more than a transistor capable of "passing" large amounts of current. The IC voltage regulator is used to turn on the transistors, and keep its output at a constant level, while the current demanded by the load passes through it. This arrangement works very well.

So, we've now completed our overall look at how your station supply works. If you have an interest in building some supplies for the shack, and need more detail, let me suggest some reading material. Try a book called "Building Power Supplies". It can be found at your Radio Shack store. The cost is \$4.95, and covers both linear and switching supplies. (Switching supplies are used in computers and other non RF applications. They could be a topic for another time.) Another excellent article called "Principles Of Power Conversion", is put out by Computer Products Company. There are some good power supply projects to be found in ARRL publications too.

-73 -Tim.

PACSAT News



By Tim Bosma, AB6FL

In the past two columns we've discussed the hardware and software necessary to work the digital microsats. At this point we're ready to deal with some of the operational aspects of working with Pacsat.

After acquiring the necessary equipment, the first thing an earthbound packet operator does to become operational is to determine the location of a nearby packet BBS. In a similar fashion, the Pacsat user determines the location of the Pacsat (or any other satellite) with a satellite tracking program. This is especially important if one has directional antennas. The second reason to have a tracking program is to tell you WHEN a satellite will be in view. Most microsats pass over California an average of 6 times a day. Generally, there are three passes in the morning between 9 A.M. and 1 P.M. and three passes in the evening between 9:00 P.M. and 1 A.M.

Tracking software such as Instant Track (IT) or QuickTrak (QT) is available from AMSAT. Instant Trak is a very interesting piece of software even if you don't work satellites, for instance, one of IT's screens gives you a global view of the Earth from the satellites perspective. My own

experience indicates these programs are also very accurate. IT (and QT) will give you beam headings, elevation, and time the satellite will be in view. So at this point, using IT we know when and where to find the satellite.

Using satellites involves adapting to the Doppler shift of the frequency. I'm not going into high school physics here, but suffice it to say that a Pacsat can exhibit a 16 kilohertz frequency shift on a high overhead pass. That means if you're listening to AO-16 with a published frequency of 437.025 MHz, AO-16 will first appear at 437.033 Mhz as it comes over the horizon. When it is overhead it will be at 437.025 and as it goes away from you and settles below the horizon it will be heard on 437.017 Mhz. All of this occurs within about 12 to 15 minutes.

That's a lot of tuning. Imagine how much "fun" it would be to work N6REB-2 if Linda were to change frequencies at that rate? Fortunately, the PSK modems will track the receiving frequency for you, if your 430 MHz receiver can change frequency by means of an "Up" or "Down" button. Otherwise you get to watch the tune indicator on the PSK modem and tune the receiver by hand! I've done it both ways, but I highly recommend the PSK control of the receiver frequency. Wiring the PSK modem for frequency control is no more difficult than wiring a TNC to a two meter radio.

So, now we're ready to begin receiving packets from the Pacsats. The satellite is coming over the horizon; the receiver is set around 437.033 MHz; and we

have the Pacsat software program PB running the PSK modem and our TNC. As the Pacsat comes over the horizon into view, the carrier fades in and out for a few seconds and then the PSK modem locks in. Now we can capture the packets coming off the satellite. Select the C for capture option, and H for headers option and we're now able to capture files as they come off the satellite. If a completed file is "captured" to disk a message appears at the bottom of the screen stating: Yo! File 235b is complete. You can also see who is connected since Pacsats send out a UI frame like this:

```
[PACSAT-12BBSTAT : : UI]
Open BC : WB6LLO AB6FL
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The first line is the UI broadcast frame for the BBS status, and the second line tells you who is connected and which of the four uplink channels is open. B & C would be 145.920 and 145.940 MHz.

Next month we'll look at operating the software in greater detail. See you on the birds!
73, Tim

No Code Is Working

The number of new ham radio operators, drawn to the hobby after the abolishment of the Morse Code requirement for a Technician class license, continues to increase dramatically. According to figures released by the FCC, 29,399 newcomers joined the ham ranks during the period of April through October, 1991. That's an average of 4,200 a month which is more than a 100% increase than the average of the prior four years.



New England... A fantastic Place to Live

Greetings from New England. Thought I'd become a native before I made a report to you and all the fine folks from **SARA**.

I've been trying to catch up on the going's on there in California. Seems every time I pick up a magazine anywhere all I see is Tim Bosma's mug somewhere inside. Seriously, kinda miss the terrific people from the San Joaquin Valley.

Amateur radio here in New England is alive and well. There's a large group of packet stations here and of course the DX nuts have a DX alerting machine. You must remember there aren't any serious mountains here in Massachusetts, unless you call a 500 foot hill a mountain.

We live in small town (35,000) called Haverhill. We can tell if you're not from the area if you pronounce it just like it's spelled....HAVER-HILL. The natives pronounce it more like "Havril", with the 'a' sounding like the 'a' in 'make'. Beautiful place actually. Haverhill's just south of the New Hampshire border and about 12 miles from the Atlantic ocean. Work lot's of terrific DX in Europe and Asia.

I live about 10 miles from work at AT&T, and have ridden my bicycle several times. First couple of weeks the folks at work thought I was a prime candidate for a heart attack. They said I was a bright crimson red when I arrived. More recently, they say I'm healthy pink when I arrive.

New England is a fantastic place to live and work. The family and I really enjoy it here. The scenery reminds me of the Sierra's a great deal and the landscape is always very green except in the dead of winter. Incidentally, the winters here are not for the meek. It can easily dip below zero for a few days. Some snow usually by late November or early December. The natives say there hasn't been

any serious snow since the winter of 1978/79. They still talk with reverence about that winter.

One of the reasons it's always green out here is because a typical annual rainfall runs approximately 44 inches. While that's a lot of water, they're still concerned about conservation out here. The town water supply is a huge lake where fishing, boating and swimming are prohibited. Plenty of small ponds and lakes to fish in. The boys and I have tried our luck in several of the fishing holes with some degree of success.

Perhaps one of the more striking aspects of New England is the history and grandeur of the place. One often thinks of Henry Thoreau or Paul Revere or one of the many famous Americans who used to live this area. By the way, Paul Revere is buried in a small cemetery in downtown Boston, not far from the Commons. He rests there peacefully along with Samuel Adams and many other famous colonial dignitaries. I can even find my way around most of Boston now. Kinda feel proud of myself.

One of my greatest thrills was visiting Old Ironsides. This beautiful ship graces Charlestown harbor and is the oldest floating commissioned warship in the world. The folks here in Massachusetts are very proud of this ship and what it represents.

If any of you 'westerners' make it to New England, please stop by and say hello. While I make back to the Modesto area occasionally, who knows if or when I'll be a western type person again.

Still keep the W6VY call.....kinda keeps the W1's guessing. Happy New Year to all.

P.S. In case you haven't heard, the economy back here is just starting up after two bad years. So, if you come to visit, please bring money. 73, Mike, W6VY.



SARA Minutes

By Ernie Rader, K6UVI, Secretary

The regular monthly SARA meeting was called to order by President Jim, N6KMR at 7:35 PM. Those present introduced themselves as the sign-in sheet was passed. Twenty-five people signed in. Secretary read two letters and their responses and asked the membership to accept the minutes as printed in *The READOUT*. WDØFFX took exception to the second to the last paragraph of those minutes in that it intimated to him that the reason for the inaccessibility to the club station was his fault. The secretary was instructed to make that correction and ask *The READOUT* editor to publish one of the (W)hat files retained on N6REB- BBS. This file shows the procedure for getting a key to the station. It was also shown that according to the agreement with Downey High School, any further access to the classroom would violate our right of passage.

Vice President Sandy, KC6TBK said that she is setting up a CPR presentation for the next club meeting by the Red Cross. She also was able to talk about upcoming presentations--one for each successive meeting. Treasurer's report from Rita, KD6BN, came next, and a synopsis of the general ledger follows:

Beginning Balance ..	\$2,211.50
3 deposits	658.00
8 disbursements	(331.45)

Ending balance	\$2,538.05
Disbursement as follows:	
Auto patch	\$ 14.18

<i>READOUT</i> related	86.87
Equipment repair	18.98
ARRL	72.00
Misc.	139.42

	\$331.35

A portion of the miscellaneous funds went for a flower arrangement and restaurant gift certificate for Linda Campbell on behalf of the SARA membership to thank her for the patience she has shown in letting SARA have most of Leroy's (NV6S) spare time. SARA received a note from the Campbells expressing their thanks to the membership for the gift.

Back in December, callbooks were ordered for several members from *INSIDE DX*. The check has never cleared and the books never received, so the treasurer was instructed to stop payment on the check and make arrangements to purchase them elsewhere. Moved and seconded to accept both the treasurer's and secretary's reports.

WDØFFX reported that he gains 1 to 2 new students a week in his novice classes and said he can handle more. Chuck, KJ6DO is holding similar classes at the Cloverland School in Oakdale. Further discussion of the class activities followed and Phil's education account report followed:

Beginning balance as of 1-2-92-	\$737.68
Deposits	135.38
Disbursements	768.47

Ending balance 1/31/92	\$104.59

Jim, N6UGH reported that two Field Day sights were initially considered, but because cattle roamed freely, they were both discounted. A third sight was declined because of a \$10.00 per car charge. Jim's home was considered.

Brad, KC6TDH reported that the next Fox Hunt would take place on May 23rd. No location for the transmitter could or would be made public for obvious reasons. The "hunters" would meet at the County Administration Building at noon. Entry fee would be \$1.00, winner take all, and there are to be no restrictions on the types of equipment to be used.

N6KMR suggested that we investigate putting on a flea market, and Bill, KC6VWO said he was still investigating that possibility. The parking lot at Inland Electronics was suggested as a sight, and Bill is to check into that.

Safe deposit box for the club was discussed, and Rita, KD6BN, suggested that all the officers get together with what documentation they have so we can see how big a box we would need. Modesto Banking Company wants \$125.00 per year for their biggest box. Grey, KC6YSI, suggested that some banks give free safe deposit boxes to those that carry large account balances. Brad, KC6TDH suggested that we buy either a two drawer file cabinet or a fireproof safe for our documents. The unit could be kept at the club station. Al's Safe and Lock was suggested as a place to investigate for the pur-

See 'Minutes on page 9

SARA Minutes

Continued from page 8

as a place to investigate for the purchase of a safe.

KMR discussed the upcoming fund raiser, and was authorized to hire Jim, KB5FB, to print the tickets. The prize is to be video cam recorder, and Sandy was to investigate prices further. Ernie, K6UVI, asked that a correction in the by-laws be authorized to reflect a change in the out of area membership rate. Instead of \$10.00 per year, it should be 1/2 the regular membership rate. It was voted to table that change until November of this year. Recess at 8:33 and return at 8:45 pm. Because time was running late, any discussion of a Hamfest was to wait until next meeting.

The two bylaws changes were next on the agenda. The first proposed change was read, discussed, and a statement reflecting the board's position was read. It was voted to table this amendment and see if there isn't a better way to handle the absentee ballot for officers issue. The second proposed change was read, discussed, and after discussion Chuck, NW6G, withdrew the proposed change. In exchange, the treasurer was instructed to present a more detailed listing of the club's financial activity both in *The READOUT*, and at each of the meetings. It was then decided to hold Field Day at Jim and Sandy's home (UGH and YBE). The raffle was won by Charlie, KJ6GE, and it was moved and seconded to adjourn the meeting at 9:28 PM. Respectfully submitted, Ernie, K6UVI, Secretary.

Broadcaster Ask FCC Help With Restrictive Zoning Laws

The National Association of Broadcasters (NAB), concerned about state and local zoning laws that place unreasonable restrictions on interstate communications, has asked federal regulators to assert their authority and remove the arbitrary local barriers that impede the best placement of broadcast towers and consumer antennas.

In comments to the FCC, NAB said it time for the federal government to take steps to supersede state and local zoning laws, because they slap a patchwork of burdensome and inconsistent

restrictions on the placement of satellite dishes, broadcast transmitters and consumer antennas such as cellular sites.

The NAB said the FCC has the authority to supersede local and state zoning laws as part of its regulatory mandate as it did in 1985 when the FCC took similar action that voided several local zoning laws that unfairly limited the placement of antennas used by Amateur radio operators.

-Thanks N6ZUC and Broadcast Engineering Magazine.

Give Your Equipment a Bath With Electronic Solvent

By Ken Johnson, W6NKE

Major sources of malfunction in radio equipment are dust, dirt, tarnish and corrosion. An additional source is added when a smoke frequents the ham shack. One or a combination of these can create a variety of operational problems. These may be evidenced by erratic loading, tuning, excessive noise, distorted

audio, lack of audio, faulty keying or no receive or transmit function at all.

Before considering a major operation on your equipment, remove the case and give the PC boards, switches and other components a thorough cleaning with a good grade of electronic solvent. In my case I have found

that the best grade of Freon TF (use with environmental responsibility) cleaner has eliminated many problems. This type of initial approach is well worth the effort before initiating major troubleshooting activities or shipping the rig back to the factory. It may also save you a bundle of money. -WorldRadio

.....
AMATEUR RADIO CALLSIGNS ...The following call signs were issued by the FCC in the sixth and seventh call districts as of the first of February, 1992.

	EXTRA	ADVANCED	TECH/GEN	NOVICE
6	AB6IU	KM6PF	KD6FLB	KD6FLB
7	AA7MY	KG7YT	N7WCG	KB7OOB

.....

What Packet Bulletin Boards Can Do

THE AA4RE Packet Bulletin Board System USER GUIDE COLLECTION

- Personal mail identified by call sign can be sent and received.
- Upload/Download of files, programs, documentation, maps, etc.
- Activity monitored (stations heard) on each port.
- Automatic forwarding of bulletins to other BBS's
- Automatic forwarding of mail via HF/VHF BBS Gateway stations.
- Multitasking, multiport configuration.

Logging on to the BBS

You begin a BBS session by simply connecting with the station running the BBS. In this area its N6REB-2. (C N6REB-2). You will then get a greeting message and a command prompt. If you are a new user you will probably get a request to "Please REGISTER as a USER" by typing REGISTER. Please do so at this time or you may have restricted access to the BBS.

You will be prompted for your Name, Zip code, and Home BBS (the BBS where you normally check into to receive your packet mail). Type the information asked and (hit a return after each command) when you are finished the system will come back with "Hello John" or something similar.

Now the BBS and the Sysop will know who you are to aid with forwarding your mail. Depending on the sysop, the BBS software can be configured user friendly

with many user prompts or short prompts with limited access. Commands are one or two letters. Some commands are followed by a message number, call or filename. For these commands, you must leave a space between the command and the message number, call or filename.

During your connection to a BBS, you send a series of commands to perform the functions you desire and at the end you send a "B" (bye command) to disconnect from the BBS. I'll explain what the commands are as we go on.

Before we go too far, you need to know how data is stored on the BBS. There are two main formats for data which you can access. These are not interchangeable and you must make sure that you are using the correct commands for the type of data.

MAIL MESSAGES: Most of your interaction will probably be with the mail system and mail messages. Mail messages are to and from specific users or to generic users like ALL.DATA FILES: This is the other format for storage and can contain any kind of data. These files generally contain larger amounts of data such as newsletters, programs, maps, etc. Data files are always named with 1 to 8 characters, a period and 0 to 3 more characters. Examples are BBSTIPS.01; CHKINTO.BBS; BULLETIN.INF, etc. Using the same suffix (i.e. .BBS) allows grouping of files of similar type. Now that you are rolling, let's see what other commands are available and what you can

do.

- HELP-TYPE COMMANDS -
These commands give the user information about the system and how to use it. COMMAND: HHELP - Gives a basic HELP COMMAND listing. It isn't context sensitive, it always gives the same answer regardless of where you are in the system. This shouldn't be necessary if you have this guide.

COMMAND: H [Letter]HELP for COMMAND - Detailed HELP with individual system commands. For example, type "H U" for help with Uploading. The descriptions in this guide are similar to what you would get with this command.

COMMAND: IINFORMATION - about this particular BBS - equipment, links, SysOP, etc...

More next month.

Packet Radio

Packet radio is simply a packaging method for transmissions. The basic idea is to break up a message into small transmission blocks, called packets. Depending on the speed of transmission, a packet may last only a fraction of a second or several seconds. The length may vary, but a typical packet might contain a line of text, a header showing who it came from and where it's going to and a trailer with error-control bits. As in AMTOR Mode A, an ARQ protocol is used. As a result, packet radio is presently best suited for point to point communications.

-ARRL Rule Book

AMSAT Plans Ambitious Satellite Launch Phase 3D in October, 1995

Picture a huge satellite...three times larger than any Amateur radio satellite that's ever flown. Eleven hundred pounds in a frame that measures more than 10 feet around. Solar panels extend like wings, spreading out more than 25 feet tip-to-tip.

AMSAT hopes to launch such a bird on the second flight of the new Ariane 5 rocket, in October 1995. The orbit will enable it to fly as high as 47,600 Km above the earth and dip down to 4,000 km which will put the satellite in view of the northern hemisphere about two thirds of every day.

That's what Roy Neal, K6DUE, ex-NBC newscaster described to the Amateur Radio Industry Group on February 8, 1992 at the Miami Hamboree. Speaking for AMSAT, he went on to describe what he called "The Satellite of all Radio Amateurs. The Phase 3D satellite."

It's designed with 5 receivers, 29 Mhz, 436 MHz, 1.27 GHz, 2.40 GHz and 5.60 GHz. A new, computer controlled IF matrix will allow any of the receivers to be connected to any of 7 transmitters aboard the spacecraft. They will put out high power signals, from 80 to 250 watts on all frequencies.

All the antennas at 70 cm and above, will be high gain from 9-18 dBic, which makes possible up to 25,000 watts EIRP's! And on receive, the higher gain antennas will be needed by the average ham.

Among capabilities will be Single Sideband, compressed digital video for world wide Amateur TV coverage including two on-board Earth imaging cameras. There will be dedicated high speed packet, ICW and more.

"Space is ham radio in the future," Neal told the

group. "Phase 3D will pioneer...opening up the world of microwaves to the average ham. But you don't get something for nothing."

Phase 3D has a \$4 million price tag. AMSAT in Europe has agreed to underwrite one million of that. The Japanese have agreed to pick up another million. Other aerospace oriented organizations have accepted a half million dollar obligation. That leaves one and a half million dollars to be raised here in the United States. And the deadline is the end of this year!"

Neal said that funding must be guaranteed by the end of this calendar year if the giant project is to go ahead. He pointed out that the Spanish government has pledged \$100 thousand American. So has Brazil. The German club DARC has pledged a million marks. It's a matter of national pride if the United States is to maintain leadership in Amateur radio.

Neal closed by saying, "The design is nearly complete. There is even a full scale mockup in existence. But the lead time to commit and build the hardware is tight so, the fund raising campaign is now under way."

The electronic industry gave an enthusiastic response in Miami and now is trying to raise some initial funding so that AMSAT can take its case to the public. Ham Radio in the 21st Century can be changed dramatically by satellite if AMSAT can raise the money to turn its Phase 3D dream into reality. The call for help is now going out as a result of the weekend meeting in Miami.

-W5YI Report

ARRL Appointments

Congratulations to Rod Stafford, KB6ZV, of San Jose. Rod has been elected First Vice President of the ARRL. Prior to his election Rod was the Director of the Pacific

Division. Rod is a Municipal Court Judge in San Jose. Congratulations also to Mike Siegel, KI6PR, who has been appointed as the new ARRL Section Manager for the

San Joaquin Valley Section of the Pacific Division. Mike makes his home at 1145 Julie Drive in Merced, Ca. 95348. You can reach him at 383-2166.

**Next SARA
Meeting**
March 17, 1992
730 pm
Stanislaus County
Administration Bldg.
1100 I Street
Downtown Modesto
Lower Level
Conference Room



Calendar



Mar. 14, 1992VE Test Modesto900 am
 Mar. 17, 1992SARA Monthly Meeting730 pm
 Apr. 11, 1992VE Test Sonora900 am
 Apr. 21, 1992SARA Monthly Meeting730 pm
 May 1-2-3, 1992 ..Fresno Hamfest3 Days
 May 19, 1992SARA Monthly Meeting730 pm
 Jun 16, 1992 ...SARA Monthly Meeting730 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 and is affiliated with Stanislaus County and the City of Modesto **RACES**.

The club owns and operates three FM repeaters using the club station call of **WD6EJF**. Frequencies are 145.39 MHz, 224.14 MHz & 440.225 MHz. The club's digipeaters, **WD6EJF-1**, operates on 145.79 MHz and **WD6EJF-2** operates of 28.103 MHz. All repeaters and the digipeaters are located on Mt. Oso, 18 miles SW of Modesto at an elevation of 3400 feet in the Coast Range mountains. **SARA** conducts informational nets each Thursday evening at 8 pm on the 2M and 220 repeaters.

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**Next SARA Meeting is March 17, 1992
 at 730 pm & You're Invited!**