

THE YAVAPAI SIGNAL

THE YAVAPAI AMATEUR RADIO CLUB
PRESCOTT, ARIZONA **DM-34**
VOL 13 - No. 2 **FEBRUARY, 2003**

WELCOME TO THE YAVAPAI AMATEUR RADIO CLUB

The Yavapai Amateur Radio Club (YARC) is an ARRL affiliated club. The club participates in many activities in the tri-city area including providing communications for local events, emergency communications, volunteer exams, and promotion of the hobby throughout the community. Membership in the YARC is open to any interested amateur or non-amateur alike. Dues are \$20.00/yr. The YARC meets at 7:00 PM local time on the 3rd Thursday of every month at the Granite Mountain Middle School, 1800 Williamson Valley Rd. in Prescott. It is about 1/2 mile north of Iron Springs Rd and all amateurs and non-amateurs as well are invited. Programs of interest are included as part of the meeting. The weekly NET is held every Wednesday at 7:00 PM local time on the 146.880- repeater. All amateurs are invited to participate and visitors are always welcome. The Yavapai County ARES/RACES NET is held on Monday nights approximately at 6:45PM local time on the 147.220+ repeater on Mingus Mtn.



Club Repeater

The local 146.880- MHz repeater is the official adopted repeater for the YARC. It is located on the hill above Willow Creek Rd and requires a PL of 100.0 Hz. If you hear a 1400 Hz pulsing tone, the repeater is on backup battery power and usage should be limited to necessary communications. The 147.040+ (100.0 PL) repeater is back up and running in Prescott Heights. Many thanks to Bill Kafka, W2YAV for the upkeep and use of the repeaters.



The club had it's "Post Christmas" get-together on Saturday February 8 at the China Buffet. What a crowd. The food was good too! Many of you went home with some spiffy door prizes, too. With 34 (I think) in attendance, some neat door prizes, and a few laughs, Lee is still wondering why he got an applause when he came back with plate #3. Thanks to Marianne for arranging the lunch, and to Bob Smith for putting together the door prizes. We'll have to do this again.

Remember to keep sending me your QSL cards and a short story about them for future newsletters. If you can't scan and e-mail, then send me the card and I scan it for you. It's that easy!

Remember, there's always room in the newsletter for your stories and contributions as well. Keep 'em comin! 73!

John Wilson-KM6BF
YARC President



Texas Amateurs Aid in Shuttle Debris Recovery, Cataloging

NEWINGTON, CT, Feb 2, 2003--Amateur Radio Emergency Service (ARES) members in Nacogdoches, Texas, have been assisting local emergency management officials and NASA to locate and catalog debris from the Columbia shuttle. The shuttle and its crew of seven was lost over Texas February 1 as it was returning to Earth. The ARES volunteers are members of the Nacogdoches Amateur Radio Club. Amateur Radio has a long relationship with the human spaceflight program through the Space Amateur Radio EXperiment (SAREX) and the Amateur Radio on the International Space Station (ARISS) programs. Three of the seven astronauts were Amateur Radio licensees

Tim Lewallen, KD5ING, of the Nacogdoches club says ARES . ↘

YARC OFFICERS for 2003

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Bob Kane-K7KOL
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WEEKLY NET CONTROL - Dale Leslie-N7XFD
NEWSLETTER EDITOR - John Wilson-KM6BF

members have been working in tandem with students from the Stephen F. Austin College of Forestry HUES/Geographical Information Systems Lab. The ARES volunteers have been surveying the City and the County of Nacogdoches looking for shuttle debris, he said.

"When located, the debris is photographed, and its position is determined using Geographical Information System satellites and receivers," said Lewallen, who noted that his normally quiet community has been overrun with national news media since the Saturday morning catastrophe. "The data is later downloaded into a database, and the debris points will be superimposed over maps in the hope that patterns will help NASA officials determine the nature of the catastrophic failure of the space shuttle."

ARES volunteers also are following up on NASA-provided telemetry and radar information that indicates where debris might be found, Lewallen said. The ARES group is coordinating the entire effort, Lewallen said, adding that the recovery and cataloging effort was expected to continue for several more days. The search area—estimated unofficially at hundreds of square miles—includes densely forested regions.

FREQUENCY STANDARD FOR THE RADIO AMATEUR

I have been interested in frequency measurement and standards for as long as I have been a ham. Precision measurement and the instruments for doing that have always been one of the most interesting aspects of amateur radio for me.

I went through a number of 100 KHz crystal calibrators in the early days. I even had a BC-221 frequency meter back in the early 60's. My first serious frequency standard was one I built out of the November 1968 QST. It was called, "The Mainline FS-1 Secondary Frequency Standard. It used a 4 KHz low-drift crystal from International Crystal, and used 7490 IC's for frequency dividers. It had outputs down to 1 KHz. The 7490 IC's were \$10 each then, and all the parts were nearly \$100, which was a lot of money in 1968. I still have that FS-1 frequency standard.

Using the FS-1 standard, I bravely entered the ARRL frequency measurement test in February 1969. Using nothing but the FS-1 and my SB-101 Heathkit transceiver, I zero-beat the FS-1 at the nearest 10 KHz dial mark on the SB-101, then read the frequency as close as I could on that old analog dial. My closest reading was within 24 Hz on 40-meters, and my overall readings had an error of 10.9 parts per million. To qualify for a Class I Official Observer (OO) back then (the top rating) you had to be within 71.4 ppm. I never applied to be an OO, but I was very happy with my test score that was well within the requirements. The very best operators then could measure within about 0.1 parts per million. They were no doubt using much better equipment than I could afford.

As time went on, and transceivers acquired digital dials and temperature compensated crystal oscillators, the need for frequency measurement tests was eventually dropped by the ARRL in 1981. Any modern transceiver within calibration was orders of magnitude better

than our old methods of frequency measurement. However, my interest in frequency measurement and standards never diminished.

Starting in the 1960's, several companies began producing frequency measurement equipment that was very precise. Hewlett-Packard in particular made some very nice equipment, including a Cesium standard. Unfortunately, it was also very expensive, and out of reach of the average ham. The Cesium standard alone was \$40,000 in 1960's dollars. Inexpensive frequency counters came on the market, but these weren't much better than our modern transceivers. Then two things happened. First, the U.S. Government, bless their hearts, put 24 GPS satellites up in the sky for the military, which also allowed the average citizen to locate his position with amazing precision. At first, the satellite signals contained something called Selective Availability (SA), which degraded the civilian signal so that the closest you could come with a civilian GPS unit was a few hundred feet. This was done so our enemies couldn't use the same GPS signals to attack us with great precision. However, the military developed a method to selectively turn off SA by region, and on May 2, 2000, SA was turned off in the U.S. Our GPS units can now read within a few feet of the actual location. It has been turned back on a few times, and may be again if we have another Gulf War.

The source of all this precision is an atomic clock in each satellite. The clocks produce a very precise timing pulse once each second, and with the proper equipment, these pulses can be averaged and translated into a very precise standard frequency.

One kind of organization that needs very precise timing is the telephone companies. For example, those with CDMA cel networks have to synchronize signals between base stations. Toward this end, custom, GPS disciplined clocks were developed by Hewlett-Packard and Trimble. These clocks contained a GPS receiver that could lock on six or eight satellites at the same time, and other circuitry, including a double-oven, voltage controlled crystal oscillator (VCXO), that could yield the precise 1 pps signal that they needed, as well as standard frequencies. The most useful being 10 MHz. The VCXO is "disciplined" by averaging the timing pulses from the satellites currently locked, then changing the oscillator frequency to synchronize it with the atomic clocks. This is all done very slowly, and the oscillator becomes more precise over time as the crystal ages.

Then the second event came along to benefit amateur operators desiring precise frequency measurement. The Telco's decided to upgrade their CDMA networks from the IS95 standard to the newer 1XRTT standard. What these are is not important to us. What is important is that the original GPS disciplined clocks could not be upgraded! And guess what? Suddenly, all these expensive GPS clocks became surplus and available for a reasonable amount. In the range of \$250 to \$300.

The two most common receivers available today are the Hewlett-Packard Z3801A and the Trimble GPS Disciplined Clock. The Trimble does not carry a model number. These units require only a power supply, GPS antenna and an RS-422 to RS-232 converter if you want to control the receiver with your computer, and see what is going on. In most cases, you can even get by without the converter. The software is available free, but there is more sophisticated software

available for the HP for around \$20. I use the free kind with my Trimble.

Those of you who like to roll your own should read the article, "A GPS-Based Frequency Standard" in the July 1998 QST. Additional information is available on the W7CQ website at http://home.teleport.com/~rewing/10mhz_construction1.htm. An excellent site on use of the commercial receivers is http://www.realhamradio.com/GPS_Frequency_Standard.htm.

You might ask, "why do we need such precise measurement of frequency?" For me it is simply an interest in the art of frequency measurement. I do, however, use my GPS receiver to increase the accuracy of a 30-year-old HP 5328A frequency counter. From a more practical standpoint, amateurs who participate in EME (moon-bounce) and weak signal VHF communications have to know their precise frequency, and GPS standard receivers are popular with them. Some modern transceivers, like the Kenwood TS-950SDX, make a provision on the back for using an external time base.

What kind of frequency accuracy are we talking about? The Trimble is conservatively rated at 2 parts in 10 to the 12th over a one-day average and 2 parts in 10 to the 10th at any single point in time. When I watch the monitor program for my Trimble, I typically see a measured variation of .05 parts per billion! That's 5 parts in 100 billion! About the same as a Rubidium standard. Should be good enough to pass the old OO tests don't you think?

Dick Hughes – W6CCD

YARC HIGHLIGHT
Hell No! We WILL go!



Following Saturday's (February 1, 2003) numbing end to the Columbia space mission, many sincere and serious people again questioned the wisdom of sending people on these dangerous discovery missions.

I think that what we're doing in space exploration is very dangerous, very exciting and very necessary as a continuation of our quest to find out what our universe is all about. Our natural curiosity of places unseen is what drove our ancestors to leave their homeland and find new, hopefully greener pastures. Where would we be today if they hadn't risked everything, including life, to come to this country?

Would we still be in Germany, Brazil, Poland, Mexico or India? I'd still be in Ireland if my Grandpa hadn't fired up the guts to leave his Mother and Father and siblings, his cronies, church and country to sail off to the United States.

The old meaning of "New World" settlement is as ancient now as the picture of millions of Ellis Island refugees streaming in from Europe in the early 20th century. The "New World" today is beyond our planet; a different, scary world filled with lucent goals; bits of light attracting us the way our personal pioneers must have been attracted to America's brilliant promises.

Saturday was sad. The bits of light streaming from Columbia, still two states away from touchdown, told us that something was wrong. I thought of Challenger all over again, with its bits of deadly debris filling the sky.

Columbia's trail of light told us our explorers were dying while charting the way to new worlds. Columbia's loss is our loss and we're shocked that a "routine" space flight should be so dangerous. The space shuttle is ordinary – we always have one up there! How could this be? Then, we think of the men and women on board, and we grieve - for them and their families.

Days later, pomp and sad ceremony honors our loss, with emotional speeches of sadness and for the families and country, but we know the spouses and children of the lost explorers will be burdened by their hero's absence. They will feel fate's abandonment for a long time.

Should we abandon manned space exploration? Are the risks too great?

Hell no! What an insult that would be to all those who have sacrificed their lives getting here, and going on. We don't know what space has to offer us - as refuge or resource. But, we'll never know if we don't look!

Betelgeuse, Beatrix, Rigel and other "street lights" of Orion are waiting for us; it's just going to take a bit longer to get there. We've had a death in the family.

To honor the sacrifice of Saturday's heroes, we have to go on and continue their work. Grandparents must encourage the curiosity of grandchildren; all must counter the arguments of detractors, and reinforce our leader's resolve. We can't let a failure deter us from our new "manifest destiny". Stopping manned space exploration would be the tragedy of Saturday.

Bob Kane, K7KOL



UPCOMING EVENTS OF INTEREST

- ▶ 2003-March 1,2 – ARRL International DX Contest (Phone)
- ▶ March 8-9, North Am. RTTY Sprint
- ▶ March 15-17 Montana QSO Party
- ▶ March 20, 2003 – Next YARC Meeting
- ▶ March 22-23 – Oklahoma OSQ Party
- ▶ March 24 – Spring QRP Homebrew Sprint
- ▶ May 10 VE Testing, Prescott

More detailed information on Contests and Special Events can be found in most amateur publications such as QST, Worldradio, and others.



JANUARY 2003 MEETING

YARC club meeting Jan. 16, 2003

Meeting came to order with President Wilson.
New members or visitors, N7NZE, Jim Williams 🐉

K6LKL , N7NRE David, KD7TUL Terry, KD6MOB Carl.
 Minutes read and approved with a call sign change.
 Treasurer report Jan16, \$1809.07 balance, Passed.
 Committee reports:
 Lloyd: Emergency services: The county is up
 grading radio equipment in the van and putting equiping at the airport.
 Lee: Girl scout jamboree Feb. 1 9-4 and will need some help.
 State Hood day, Friday, Feb 14. Will need help there also.
 Lee; talked about Flagstaff area DPS and racial pofiling in the area.
 It was interesting.
 V. E. testing Feb 8.
 Old Business:
 Christmas party. Maryann suggested the China Buffet, on Feb 8th.
 Saturday 2pm. Cost about \$7.50. Possible 40 people. Motion by
 KJ7IN to spend \$100 for door prizes. Sec. by Lloyd.
 Discussed and Passed. Bob WB6ODR will set this up.
 Treasurer wishes to make some changes in his report and handling of
 the money. His report will coincide with the monthly bank statement.
 He will deposit everything in the bank and write checks for everything.
 Refreshment fund or petty cash. Discussed.
 Motion to eliminate the repeater fund. Change dues to eliminate the
 \$2.50 going into the repeater fund, but will now go into the general
 fund. Motion made by John KM6BF seconded by Sunny W7FQM..
 Corrected motion by John to transfer repeater fund to the general fund.
 Discussed. Passed.
 Motion Ray, Sec John WB7VGJ to have a board meeting to discuss all
 this. Meeting set for 6:30pm before next meeting.
 Terry requested help for special event station on Feb 14.
 Break at 8:10 Back at 8:25pm.
 50/50 winner number 807933, Sunny W7FGJ
 Progran: Fred talked about the outbacker antenna the club purchased
 for the School Club.

Adjourned 8:47pm Robert Tilman K7CJW

Respectfully submitted,
 Tony Masvidal-W7PCU
 YARC Secretary

THE NEWSLETTER!

With the announcement of the ARRL's decision to drop the Section Manager's News (remember that little paragraph in real small print in the back of the magazine?) from OST, we will attempt to publish it here in the newsletter for you. It may be a month late, but it will be here, and in a little larger print! If you have anything to share, please feel free to submit it for inclusion in the newsletter. We welcome your suggestions, comments, stories, personal experiences, or other items related to the hobby. Send e-mail to: km6bf@cableone.net

WE WANT YOU! Membership in the Yavapai Amateur Radio Club is \$20.00 for 1 year. Newsletters will be mailed only to those members not attending a meeting and current on dues. Those in arrears 3 months will be dropped from the membership list. Dues can be mailed to the club PO Box or given to the club treasurer at any meeting.



FROM THE WAY PAST-PRESIDENT
 K7KOL (Bob Kane)

To all Res residents: Two Packs and Flash Man
 finish Community Service

In Council Court last month, Chief White Man Runs Him handed down the punishment to native communicators Two Packs a Day and Flash with Mirrors Man for their conviction of thwarting tribal customs with new forms of communications. You may recall that Two Packs was using the standard AM smoke signals at 8 Puffs Per Minute while Flash Man was using his SSB system known as Simple Sign Blinker to provide our community with the latest John Wayne sit-coms. Each transmission mode gave a good "Thwap to Squish" ratio and programming continuity.

Two Packs was sentenced to one month of labor, helping the Chief's son-in-law, Wanna-Be-Rich install his new television transmitter tower on top of 18th Mesa. When Wanna-Be-Rich and Two Packs got to the top of the Mesa, they found some funny looking rocks that had a real shiny, rich surface. Wanna-Be called in the appraiser for his opinion, who opined that he thought the funny stuff was gold, so he sent a sample to his agent on Manhattan Island. Manhattan Man said, "Yup, thar's gold in that there mesa!" and promptly arranged transfer of the whole Mesa to Manhattan Man for 2.2 trillion dollars of Majority Man's wampum. Good hearted Manhattan Man also leased some non-descript building to Wanna-Be to install his antenna, bringing the John Wayne sagas to the good folks in New Jersey. Two Packs couldn't do this job alone, so he sub-contracted with Flash Man for some help with the tower and antenna. (See picture, below of Two Packs and Flash Man making final adjustments to the smoke director.) This new antenna, at a height of 1776 feet will easily allow the community of Hoboken and Newark receive the John Wayne thrillers.

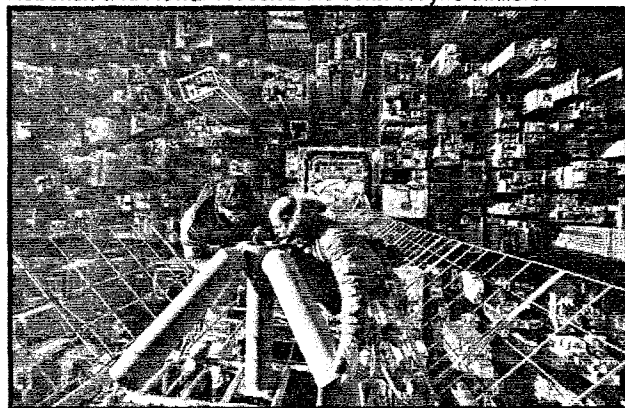


Photo by Vincent Laforet / The New York Times

That's Flash with Mirrors Man on the right telling Two Packs, "Smoke Smells Bad!"

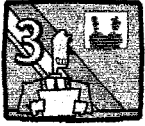
The antenna is up and running well, with a very high Extended Reliable Puffs (erp) and far above any other mesas, so range is almost unrestricted.

Chief White Man Runs Him was ecstatic, having traded 18th Mesa for 2.2 trillion dollars. The Chief is now expanding his horizons and arranging for the re-purchase of Mexico.

"The WhereTheHellAreWe tribe is determined to protect its sovereignty against any rogue nation that might have victuals of mass disturbance." the Chief told his tribal council, "Arrange for a league 🐾"

meeting, the other tribes are either with us or against us!" The council members agreed, "Uh-huh Chief, but can we finish our shopping first?"

73's Bob Kane, K7KOL



OTHER NEWS OF INTEREST



From Pen Brown, KJ7KL - Senior Communications Correspondent and News Analyst

Utah Amateur Radio Antenna Bill on its Way to Governor's Desk

NEWINGTON, CT, Feb 14, 2003--Less than a month after its introduction, Utah's Amateur Radio antenna bill is on its way to the desk of Gov Michael Leavitt. The bill unanimously passed the Utah Senate February 13 on a 26-0 vote with three members absent. The measure, HB 79, was introduced January 20. It earlier passed the Utah House on a 65-8 vote.

"I would like to express appreciation to the many Amateur Radio clubs and individual Amateur Radio operators throughout Utah who spent many hours publicizing this bill and ensuring Utah representatives and senators were contacted about the importance of this bill," said ARRL Utah Section Manager Mel Parkes, AC7CP. "Once the bill is signed Utah will be come the 17th state to enact PRB-1 legislation."

Sponsored by Rep Neal B. Hendrickson, HB 79, "Regulation of Amateur Radio Antennas," made it through the house in 11 days after getting a favorable recommendation from the House standing committee on political subdivisions. HB 79 would prohibit municipalities and counties in Utah from enacting ordinances that fail to comply with the limited federal preemption known as PRB-1.

The measure would require that local ordinances involving placement, screening or height of an Amateur Radio antenna that are based on health, safety or aesthetics "reasonably accommodate amateur radio communications" and "represent the minimal practicable regulation to accomplish the municipality's purpose."

Gary Zabriskie, N7ARE, of St George told ARRL that he wrote each of the state's senators to plug the measure. An urban planner, Zabriskie told the lawmakers that he understands the need of local government to protect public safety, health and welfare. "It is imperative that any regulations affecting the exercise of licensees in the Amateur Radio Service must be carefully and selectively crafted to comply with federal law," he said. Passage of the bill would serve to notify local government of its responsibilities under the limited federal preemption, Zabriskie said. "Utah should pass HB79 to reinforce this to local government and level the playing field."

Parkes has credited Mike Davis, KD7FQD, and John Hanson, KI7AR, for developing the bill and getting Hendrickson to sponsor it. A copy of the legislation is available on the [Utah State Legislature](#) Web site.

PRB-1 bills are under consideration in several other states. For more information about PRB-1, visit the ARRL Web site's [Antenna restrictions](#) page.



ARES/RACES NEWS



Preparing for Emergency Communications Deployment.....

Remember the Boy Scouts Motto "Be Prepared"

One of the first things to do in preparing for deployment or activation is to, well ahead of time, sit down with your family and discuss what needs to be done to prepare them for your absence. YOU and YOUR FAMILY are your NUMBER ONE PRIORITY.....

Preparing for any emergency communications deployment involves a wide range of considerations, including radio equipment, clothing and personal gear, food and water, information and specialized training.

One of the last things you want to save until the call for assistance comes is thinking of all the items you may need and trying to locate them. Experienced emergency responders have their necessary items packed and ready to go in a "go kit" or "ready bag".

Without a go kit you will end up leaving something important at home and will also waste valuable time while trying to locate the items you will need. There will also be questions you may need to answer.

- Which nets will I be checking in to?
- Will I be on foot or in a vehicle?
- Is my assignment fixed or will I be mobile?
- How long can I expect to be deployed?
- Will I be operating from a building or shelter with reliable power?
- What are the weather conditions at the time?
- Will there be food and water?

Other questions may occur based on your experience. If you are new to emergency communications, ask some of the other members of the group for their assistance.

Everyone has their own ideas as to what to keep in a go kit. We have covered go kits before, but it is important enough to keep going over. Here are a few suggestions as to what should be carried in a short term basic kit. You should adapt yours to fit your own needs.

- ARES/RACES ID card and copy of FCC license
- Handheld Radio (dual band preferred) or portable radio with a power supply
- Manual for the radio or a 'cheat card' with necessary information for programming etc.
- External microphone or speaker mike
- Headphones or an earpiece
- Alkaline battery pack for handheld
- Extra batteries
- Power source for portable

- Antennas with mounts (mag mount, twin lead j-pole, or gain antenna for handheld)
- Necessary cords for hanging antennas (j-pole)
- Spare fuses
- Coaxial patch cords with proper connectors
- Extra coaxial cable (assorted lengths)
- Adapters (PL-259 to BNC, BNC to SMA, etc.)
- Small SWR meter
- Cigarette lighter adapters for power cord
- Pen or pencil and eraser
- Clipboard and paper (for logging traffic also)
- Repeater and simplex frequency list of ARES/RACES frequencies
- A list of contacts and resources for your area with telephone numbers.
- Map of the local area
- Pocket knife of multi-tool
- Flashlight with spare batteries (AAA and the same spares can be used as required by handheld)
- Snacks (Granola bars, High-energy bars)
- Liquid refreshments (water is very important!)
- Pliers
- Extension cord with multiple outlets
- Electrical tape
- Small Volt Ohm meter
- Necessary medications if needed
- Optional:
- Small First Aid Kit
- Scanner to conserve batteries in the handheld

When the time comes, you need to know where to go, and what to do, but it may not always be possible to know these things in advance unless you have a specific preplanned assignment. The answers to the following questions may help.

Which frequency should you check in on initially? The 147.260 +/103.5 or 147.220+/162.2 repeaters.

Are there backup frequencies? The 146.880 -/100.0 or 147.000 +/162.2 repeaters. If the repeaters are out of service, which simplex frequencies are used? Initially monitor the repeater output and use simplex on that frequency. Others that will be used are 147.420, 147.440, 147.460 and 147.480 Mhz.

Which nets will be activated first? The first net activated may be the "resource net" followed closely by the "command net".

What if I have a preplanned assignment? Deploy to it, but try to inform the net control you are enroute.

Last but not least try to attend all of the training that is offered. The ARRL Level 1 EMCOMM course is a very good start. Keep checking the ARRL website for opening dates. Attending the training meetings offered by your local group is also very important. It cannot be over stressed -- the more you know, the more effective and valuable you will be to your emergency communications organization.

YARC Public Service..... A BIG THANK YOU to the operators who turned out to assist with the Girl Scout Global Scouting station set up at the Willow springs Girl Scout Camp. Quite a few of the Scouts showed a keen interest in Amateur Radio. Remember Saturday, May 3rd for the Whiskey Row Marathon. 18 to 20 operators are needed for this event. Put it on your calendar now.....

The Yavapai County ARES/RACES Nets are held Monday evenings at 1845 hours on the 147.220 VVARA Mingus Mountain repeater. The 147.260 Mt. Union Net is held immediately following the 147.220 Net at approximately 1900 hours. Future plans call for

linking these two repeaters for emergency and Monday net use. Once we have the repeater link system in place both nets will be combined to begin at 1845 hrs.

Until next month..... Lloyd Halgunseth WA6ZZJ
Yavapai County ARES/RACES
DEC/Radio Officer
(928) 717-2706
wa6zzj@cableone.net



FROM THE "I can't believe I heard it on amateur radio" files:

"I'm like a peeping Tom-I just like to listen"

"We have all of this spectrum, and it's free!"

"There's a barn with antennas on it!" "Those are lightning rods!"

"Next time I'll check the SWR BEFORE I put the antenna up!"

"Why would anyone make an antenna that has NO gain?"

"OK, so if I transmit music on ham radio and no one hears it, have I broken the law?"

...and Does the statement, "We've always done it that way" ring any bells...?

The US standard railroad gauge (distance between the rails) is 4 feet, 8.5 inches. That's an exceedingly odd number. Why was that gauge used? Because that's the way they built them in England, and English expatriates built the US Railroads. Why did the English build them like that? Because the first rail lines were built by the same people who built the pre-railroad tramways, and that's the gauge they used. Why did "they" use that gauge then?

Because the people who built the tramways used the same jigs and tools that they used for building wagons, which used that wheel spacing.

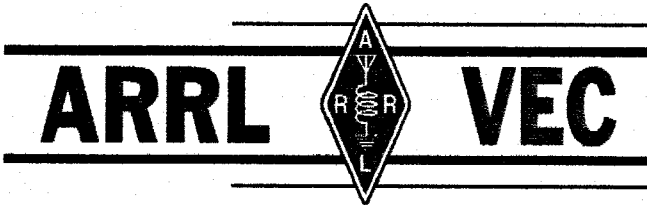
Okay! Why did the wagons have that particular odd wheel spacing? Well, if they tried to use any other spacing, the wagon wheels would break on some of the old, long distance roads in England, because that's the spacing of the wheel ruts. So, who built those old rutted roads? Imperial Rome built the first long distance roads in Europe (and England) for their legions. The roads have been used ever since. And the ruts in the roads? Roman war chariots formed the initial ruts, which everyone else had to match for fear of destroying their wagon wheels. Since the chariots were made for Imperial Rome, they were all alike in the matter of wheel spacing. The United States standard railroad gauge of 4 feet, 8.5 inches is derived from the original specifications for an Imperial Roman war chariot. And bureaucracies live forever.

So the next time you are handed a spec and told we have always done it that way and wonder what horse's ass came up with that, you may be exactly right, because the Imperial Roman war chariots were made just wide enough to accommodate the back ends of two war horses.

Now the twist to the story... When you see a Space Shuttle sitting on its launch pad, there are two big booster rockets attached to the sides of the main fuel tank. These are solid rocket boosters, or SRBs. The SRBs are made by Thiokol at their factory in Utah. The engineers who designed the SRBs would have preferred to make them

a bit fatter, but the SRBs had to be shipped by train from the factory to the launch site. The railroad line from the factory happens to run through a tunnel in the mountains. The SRBs had to fit through that tunnel. The tunnel is slightly wider than the railroad track, and the railroad track, as you now know, is about as wide - as two-horse behinds. So, a major Space Shuttle design feature is arguably the world's most advanced transportation system was determined over two thousand years ago by the width of a Horse's ass.

And you thought being a horse's ass wasn't important??
(Thanks to Jerry-KA1BAB for this interesting perspective)



Volunteer Examiner Testing



A test session was held on Saturday May 8. There was only 1 candidate, but he took and passed the General written test. Thanks to all who attended.

The remaining scheduled test dates for 2003 are 5/10, 8/09, and 11/08. Time is 1000AM and the location is the Masonic Lodge at 1028 Willow Creek Rd., Prescott.

Additional sessions may be held as needed. All those attending for tests must have **ORIGINAL** license and a copy, **ORIGINAL** CSCE's and 1 photo ID. (VE's-remember to bring and wear your VE - ID Badge!)

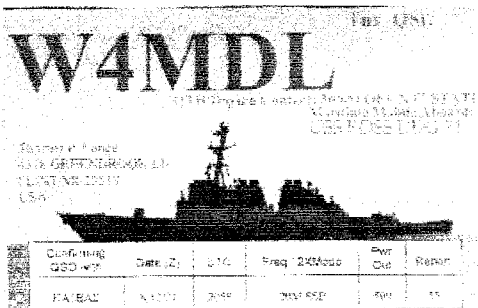
Special test sessions may be accommodated according to demands, as needed. The ARRL has announced that the test fee will increase to \$12.00 beginning January 1, 2003. Further information can be obtained by contacting John Wilson-KM6BF at 636-1228.

YOUR LOCAL PRESCOTT AREA VE's

- | | | | |
|-------|-----------------|-----------|--------------|
| AA9TB | Mariann Littell | AB7KE | Joan Tremper |
| AB7KF | Bob Nichols | K7KOL | Bob Kane |
| K7NGK | Don Broadston | KC7AGL | Don Muller |
| AB7SK | Sasha LeGendre | KJ7KL | Pen Brown |
| N6LIK | Bob Hoffa | KM6BF | John Wilson |
| W2YAV | Bill Kafka | W7DC | Bob Harkey |
| W6CCD | Dick Hughes | W6HDP | Bill Jackson |
| | WB6ODR | Bob Smith | |

QSL CARD'S WANTED!

Here's another card from the KA1BAB collection:



Dick Hughes-W6CCD recently suggested that we even put photos of old ham plates here too. Anyone out there that has a picture of your old plates, send them to me.



Here is a picture of my original 1951 California ham plate, the year I was first licensed. I wonder how many members still have their original ham plates?

73, Dick - W6CCD

Remember, if you have a favorite QSL card that you would like to share, send it to me with a short story about it. If I don't get any, I'll continue boring you with mine! Ed.

FOR SALE

For Sale (with icon)

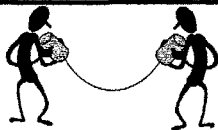
- Ameritron AL-811M linear amplifier: 85W in, 800 out, 15-160 meters. \$500.00
- Radio Shack HTX 202 transceiver \$100.00
- 2 Radio Shack HTX 212 mobile transceivers \$100.00ea.
- D104 Mic/Astatic head: \$75.00
- Silver Eagle head: \$100.00
- Diamond Eagle head: \$100.00
- Alinco VHF FM DJ-S11 transceiver: \$50.00
- President speaker 711-SX \$10.00
- ICE 2M Filter Model 413: \$20.00
- Daiwa CN-101L SWR and Power Meter cross needle \$50.00

Cash only to Jan Anderson KC7MLT
928-778-7200 from 1700-2100 Mon-Fri and all day Sat. and Sun.



ARRL MEMBERSHIP APPLICATIONS

The ARRL no longer allows clubs a portion on renewals. However, a new program effective October 1, 2001 allows clubs to keep a larger portion of **NEW** ARRL applications. If you are not a member of the ARRL, join now through the club. Submit your application to me or at any meeting. Remember to include the envelope too. It will save us a few cents on postage. Thanks. David Passell-K6UWV-Treasurer



WEEKLY INFORMATION NET - WEDNESDAY NIGHTS @ 7:00 PM
 146.880- (100.0 PL) IF YOU DON'T HAVE PL, TRANSMIT ON
 146.880 SIMPLEX WHEN THE REPEATER DROPS OUT. ALL
 AMATEURS WELCOME.

**MONTHLY MEETING - 3rd THURSDAY @ GRANITE MTN MIDDLE
 SCHOOL 7:00PM (N 34° 34' 22.6" W 112° 29' 45.1")**

NEXT MEETING THURS, MARCH 20, 2003 @ 7:00pm

Wednesday Morning Breakfast-Iron Horse Café, S. Hwy 89 in Chino
 Valley (N 34° 43' 56.5" W 112° 27' 15.4"). 7:00AM. Informal-All are
 invited.

Thursday Morning Breakfast-Michael's Restaurant in the Safeway
 Shopping Center, Hwy 69 Prescott Valley. 7:00am. (N 34° 35' 13.3" W
 112° 19' 44.6") All are invited.

Location data provided by Fred Zimmermann-N7PJN, per WSG84 Datum

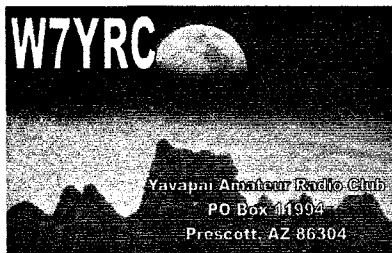
SOME CARTOONS COURTESY OF WORLD RADIO MAGAZINE



**YAVAPAI AMATEUR RADIO CLUB
 PO BOX 11994
 PRESCOTT, AZ 86304**

Visit us on the web at: <http://www.w7yrc.org>

Many thanks to Bob Smith-WB6ODR, our Webmaster!



Someone thought it would be a good idea to have the local Public Safety frequencies handy, so here they are:

AGENCY	Frequency
Ambulance-Lifeline	463.950
Arizona Game & Fish	151.460
Arizona State Land-Fire	151.400
Arizona State Land-Fire	151.415
Chino Valley PD	155.760
Crown King Fire	154.205
DPS (Highway Patrol) - Area 12	460.425
Fire Dispatch-Tri City	154.160
Fire-Black Canyon City	155.745
Fire-Command	154.340
Fire-Command-CVFD	154.220
Fire-Groom Creek	154.130
Fire-Mayer FD	154.130
Fire-Mutual Aid	154.280
Paulden Volunteer Fire	154.355
Prescott Airport	125.300 AM
Prescott PD-1	154.800
Prescott PD-2	155.250
Prescott Valley PD	155.895
USFS-Prescott NF	168.175
Walker Volunteer Fire	154.175
Williamson Valley Fire	154.430
Yavapai County Jeep Posse-S&R	155.400
Yavapai County SO-East	154.740
Yavapai County SO-West	154.725

ADDITIONS, DELETIONS OR CORRECTIONS, ARE APPRECIATED