CROSSTALK

NEWSLETTER OF THE W6TRW AMATEUR RADIO CLUB

Volume 34 Number 2 February 2002

UNITED WE STAND

BREAKING NEWS:

W6TRW.NET back on the air!

Thanks to Chris, WA2KDL, the Packet/Internet Gateway System is back including Stan W6EKK's web page that displays Satellite and Oscar passes.
Check it out: http://w6trw.net/

For Sale: Ten Tec Omni VI with plus upgrade, $1100.
Kenwood TS-60, 90 watt 6 meter all mode, $500.
Bill Shanney, W6QR. Phone 310-813-8159 daytime.

Tower Two Antenna Party

Check out Peter's article on page 5 on the latest Tower Two Test Results

See page 9 for an article from Mike, WB6DJI who has been able to make world wide contacts via our VHF Repeater.

Duane Park, WA6EIK Crosstalk Editor/Webmaster

In This issue:

W6TRW ARC Monthly Calendar of Events

Third Tuesday of each month	5:30 pm	**Executive Board Meeting, R4/2020f** (All Club Members are invited)
Second Tuesday of each month	5:30pm	**Club Meeting** **Round Table Pizza, (Redondo Bch. & Hawthorne)**
Second Tuesday of each month	12:00 noon	**Emergency Communications Team Meeting** R3 Emergency Operations Center
Last Saturday of each month (Rain or Shine & Holidays)	7:00 am	**W6TRW/ARC Swap Meet** Marine and Aviation (Southeast Corner)
During the Swapmeet	10:00 am	**VE Sessions in Cafeteria**

Weekly Events

Every Monday Night (Except the 1st & Holidays)	7:30 pm	**Disaster Communication Systems (DCS) Net** DCS Members: Check in on 2 Meter Repeater
Every Wednesday	12:00 noon	**ECT Net on 2 meter Repeater** All Amateurs Welcome
Every Thursday	7:00 pm	**Space Hams Net on 2 meter Repeater** with N6SHI and W6EKK
Every Mon, Wed, Fri	2:00 pm	**W6TRW Retirees Net** 7185 KHz
Every Friday Morning	7:30 am	**W6TRW Amateur Radio Club Breakfast** Building S Cafeteria - Everyone is invited Talk-in on 2 Meters

***Other Ham Swap meets*:**

El Cajon ARC - **1st Sat. ea. mo**. 6:00 AM @ Santee Drive-in Theater, Woodside Ave. @ Hwy 67 in **Santee** Talk-in 146.52

Inland Empire ARC - **2nd Sat. ea. mo**. 7:00 to 11:30 AM @ A.B. Miller High School, Walnut & Oleander in **Fontana** Talk-in 145.480 (-600 pl=77.0hz)

CA Microwave Relay Assoc. at CAL POLY **- 3rd Sat. ea. mo. 7-11am in lots F8,F9 and F10** @ CAL Poly Pomona **at 3801 West Temple.**

ARRL UNVEILS ANTENNA MODELING COURSE

(Reprinted from The ARRL Letter Vol. 21, No. 06

The ARRL Certification and Continuing Education Program soon will offer its first technical course--Antenna Modeling. Written by the well-known author and historian L.B. Cebik, W4RNL, and edited by ARRL Senior Assistant Technical Editor--and antenna guru--Dean Straw, N6BV, the course offers students a hands-on tutorial. Registration for Antenna Modeling (EC-004) will open Monday, February 11.

The course has been through extensive beta testing during the past several weeks, and even the experts found they'd picked up some new knowledge on the subject. "I've been modeling antennas using a computer for about 15 years, and I certainly learned a great many things in this course," Straw commented.

ARRL Certification and Continuing Education Program Coordinator Dan Miller, K3UFG, said the experts agreed that the best method to master the art and science of antenna design and analysis was to become familiar with the basic concepts of computerized antenna modeling and modeling software. "Using computer simulations--models--you will study the performance of a wide variety of antennas, without having to invest in a test range or a room full of test equipment," he said. "In this course, students will learn to master the basic techniques of constructing good models."

Several excellent and affordable antenna modeling software packages are available. The course will illustrate the elements of modeling antennas using two of the most popular packages based on the NEC-2 core--EZNEC 3.0 by Roy Lewallen, W7EL <http://www.eznec.com/> and NEC-Win Plus by Nittany-Scientific <http://www.nittany-scientific.com/>.

Beta testers offered positive feedback after completing the course. "What a gold mine of information!" said Dan Maguire, AC6LA. "I found myself looking forward to taking the next lesson just to see what new things I could learn." Former ARRL staff member Chuck Hutchinson, K8CH, also took a crack at the program. "Wow, I sure learned a lot about antenna modeling!" was his reaction.

Students will have up to 12 weeks to complete the course material. "There are 31 lessons, and you should plan to spend one to two hours per lesson," Miller advised. The inaugural class begins Tuesday, February 26 and wraps up Tuesday, May 21.

A sample lesson based on the actual Antenna Modeling course is available on the ARRL Web site <http://www.arrl.org/cce/sample-lesson/>. Registration for the new Antenna Modeling course opens Monday, February 11, at 4 PM Eastern Time on the ARRL Course Registration page <https://www.arrl.org/forms/cce/>. The registration fee is $80 for ARRL members and $110 for nonmembers. Continuing Education Units (CEUs) are available for all ARRL C-CE courses.

Answers to most questions are available on the ARRL Certification and Continuing Education home page <http://www.arrl.org/cce> and the associated C-CE links. To learn more, contact ARRL Certification and Continuing Education Coordinator Dan Miller, K3UFG, cce@arrl.org.

FCC TO CHECK GETTYSBURG MAILROOM FOR ANTHRAX

(Reprinted from The ARRL Letter Vol. 21, No. 06

The FCC says it's making arrangements to test for possible anthrax contamination at the off-site mailroom serving its Gettysburg, Pennsylvania, office. This week's announcement follows the suspension of US Postal Service deliveries to the FCC's off-site mail facility in Capitol Heights, Maryland, after "a scant amount of anthrax contamination" was detected January 29 during US Public Health Service testing. The Gettysburg testing would be "a further precaution," the FCC said.

The FCC's Gettysburg office deals with Amateur Radio licensing and enforcement matters, including vanity call sign processing. Since last fall's anthrax scare, the Gettysburg office has been providing special handling for its own incoming mail at an off-site facility.

Before arrangements were made for the offsite facility, some FCC-Gettysburg mail was sent to Washington for decontamination along with other FCC mail. Apparently waylaid in the process was mail containing paper Amateur Radio vanity call sign applications for the last couple of weeks in October, forcing the FCC to halt all vanity processing. The FCC reports it's been able to contact most vanity applicants and have them resubmit their applications. So far, the FCC has processed vanity applications received through October 22. (The FCC advises anyone who believes their paper vanity applications might have been affected and cannot locate the application on the ULS Application Search <http://wireless.fcc.gov/uls> should resubmit their application.)

There is no indication that the Gettysburg mailroom testing announced this week would further complicate or delay vanity call sign processing or the handling of applications filed on paper. Since last fall, the Commission has been urging everyone to file applications and documents via e-mail or fax whenever possible. Vanity electronic and paper applications have equal processing priority, however.

The Center for Disease Control this week completed follow-up testing of the anthrax trace discovered at Capitol Heights. The CDC reported to the FCC that the trace "showed a very slow platelet growth, which indicates a weak or very scant amount of anthrax consistent with cross-contamination of mail," the FCC said in a statement. As a result, the FCC said, it was making arrangements for the Capitol Heights mail processing area to be decontaminated and retested as soon as possible before permitting mail service to resume.

The FCC moved its mail reception, processing and screening center out of FCC headquarters in Washington, DC, to the Maryland facility after the initial anthrax contamination incident on Capitol Hill last fall. The FCC has been updating a "Fact Sheet" posted on its Web site.--FCC

Tower Two Antenna Party Results

By Peter, W3CRI

9 February 2002

Bob's southern end is just visible at the Tower top.

Rod Scott KE6PI, Bob Briggs KD6WYQ (our tower man), Dave Nelson AB6DU, and myself made up the antenna party. Our purpose was to (a) change out the one-relay tuning box with the new two-relay one, and then tune the dipole to the appropriate frequencies according to the following relay truth table:

Relays on	Center Frequency (MHz)
none	3.510
1	3.550
2	3.790
1,2	3.830

Note that 'relay on' means that the relay shorts the coils in series with the antenna leads. Therefore both 1 and 2 relays on means the highest center frequency.

Our test set up. The network analyzer is at the top of the cart with the Transmission/Reflection analyzer underneath it along with the relay power supply. Next time we bring a photographer's drape to cover the analyzer so we can read the display.

We borrowed a Hewlett Packard HP 8753A Network Analyzer and combined it with a HP 8502A Transmission/Reflection Test Set. After struggling with a noisy jumper cable, we got it to phase lock and were in business. However, the next time we do this, we must bring a black hood to read the screen in the daylight—it was virtually impossible to see! Immediately we saw the antenna resonance—on the swept frequency display set to 3.5 MHz center frequency and covering 2 – 4 MHz.

Our general tuning approach was to have been to (a) energize both relays and adjust the jumper wires to bring the resonant frequency up to the 1,2 entry in the above truth table. When that is completed, both relays are de-energized and the windings of the bottom coils spread to bring up the lowest resonant frequency to match the table above.

What we found was significantly different than what the above truth table indicates.

Here is a table of our experimental results:

Condition	Frequency (MHz)
Old tuning box, relay open	3.375
Old tuning box, relay closed	3.6225
New tuning box, both relays open	3.2184
New tuning box, both relays closed	3.61545
Minimum SWR at resonance	1:133
Bandwidth at 2:1 SWR	50 KHz

Our intrepid ground crew supports the high-wire act.

Moreover, we found that one jumper wire was 33" from the mast and the second was 36" away. I doubt that this difference would be sufficient to cause the open-relay resonance to be about 200 KHz low. Bob found that the jumper wire connections to the antenna support wires were sufficiently corroded so that he was unable to move them.

It is clear that, unless something beneficial turns up, we will have to drop the antenna to tune it. I will contact FORCE 12 and query them as to why the resonant frequency is so low. Perhaps the dipole length was mis-measured. It seems clear that with the tuning coils shorted out, the resonant frequency is far too low. I don't know how sensitive the dipole tuning is to a change in the jumper-wire position. The manual suggests 27" as measured from the mast, but according to the instructions, these jumpers must be pushed away from the mast so that their final position will be much more distant than the present 33" and 36" positions.

When the tuning issue is cleared up, then we will develop a tuning protocol and enjoy another antenna party!

Peter, W3CRI

HAMS ASSIST AILING SAILBOAT PASSENGERS

(Reprinted from The ARRL Letter Vol. 21, No. 06

Amateur Radio operators have once again been instrumental in getting prompt assistance to sailboat passengers needing emergency medical attention.

On January 30, Marsha Stone, XE2/KF6TIQ, was scuba diving at 77 feet off Mexico when she encountered problems while surfacing. It's believed that she developed a pulmonary embolism as a result of the dive. She also was exhibiting possible neurological symptoms. Stone was aboard her sailboat She Wolf with three other passengers at the time, including her sister. Other amateurs sailing in the vicinity came to Stone's aid.

Members of the Intercontinental Net on 20 meters learned of the situation and offered to help. Bob Botik, K5SIV, in Austin, Texas, phone-patched Stone to her personal physician, who advised that she needed to get to facilities in Cabo San Lucas as soon as possible.

Meanwhile, aboard the sailing vessel Spirit Quest, Kathy Brownell, W6ATM, and her physician-husband Doug rendezvoused with Stone's vessel, and the couple was able to provide oxygen and comfort to the victim as well as transport to the Naval Landing Station at Socorro Island, Mexico, for an airlift.

Also rendering aid was Barb Campbell, XE2/KB0RIZ, a registered nurse aboard the sailing vessel Blue Chablis. Campbell's vessel reportedly stayed alongside Spirit Quest throughout the night to lend assistance when the victim's boat arrived at Socorro. The She Wolf and Spirit Quest maintained contact on marine VHF frequencies.

"This was a wonderful group effort of humans who had ham radio," Botik said.

Stone was transported to Cabo San Lucas the following day. Botik reported this week that he'd spoken to Stone and that her spirits were high. He said she had undergone treatment in a hyperbaric chamber, and, as of February 5, was able to stand and walk without assistance. "She continues her recovery," he said.

On February 4 a woman identified as Miranda Middleton--an Australian national in her mid-20s--became seriously ill while aboard the sailing vessel Baggywrinkle in the Caribbean. Skipper Benjamin Shaw, KG4OAQ, got on 20 meters to seek assistance on the Intercontinental Net. Unable to copy Shaw well, Dave Franke, WA5EZW, alerted Ed Petzolt, K1LNC, in South Florida by telephone.

No stranger to dealing with maritime emergencies via ham radio, Petzolt contacted the US Coast Guard in Miami, which patched him through to its San Juan, Puerto Rico, station. The US Coast Guard in turn contacted Coast Guard officials in St Vincent and the Grenadines. Coast Guard detachments in the US and in the Grenadines came up on frequency, and Petzolt was able to relay information between the Coast Guard and Shaw's vessel as necessary.

Middleton was picked up by the St Vincent Coast Guard and was taken to Kingstown for treatment. "Score another one for ham radio!" Petzolt said. He noted that KG4BVR, W8LK and W3JMU and other stations stood by in case of problems.

HAMS ASSIST AILING SAILBOAT PASSENGERS cont.

Shaw said that when Middleton arrived at the hospital, she was experiencing numbness and partial paralysis. He added that she was doing much better following treatment.

Shaw expressed his gratitude to the amateurs who aided in Middleton's medical evacuation to St Vincent, and especially to Petzolt. "Miranda and I would like to extend a special thanks to Ed for his excellent help throughout the ordeal," Shaw said. "Not only did he assess and take control of the situation in a rapid and professional manner, but he also kept our spirits up as we communicated.

Shaw expressed the hope that he and Middleton could be back on their way to Trinidad "in a week or so." Shaw maintains a Web site <http://www.baggywrinkle.com> and uses HF to access his e-mail while under way.

TURKISH AMATEURS FILL POST-QUAKE COMMUNICATION GAP

(Reprinted from The ARRL Letter Vol. 21, No. 06

Amateur Radio operators in Turkey were among the first responders following an earthquake in central Turkey February 3. More than 40 deaths and some 170 injuries were reported in the aftermath of the earthquake, which registered 6.0 on the Richter scale and shook the province of Afyon.

"Our communication system was used by our members within the Civil Defense SAR [search-and-rescue] team for communicating with their HQ in Ankara and within the affected area," said Aziz Sasa, TA1E, president of the Turkish national Amateur Radio organization TRAC. "I must add that we were the only long and medium-range communication resource until normal communication facilities were restored."

Sasa said telecommunications systems in the region brought back up "very rapidly," and that the amateurs were able to wrap up their response the same evening. Hams were at the scene in Afyon for about 10 hours. "HF was utilized only partly, most of the communication was handled on VHF and UHF with repeaters linked to each other," Sasa said. The terrain allowed wide coverage that included the capital city of Ankara--some 200 miles away.

SOLAR UPDATE *(Reprinted from The ARRL Letter Vol. 21, No. 06*

Propagation wonk Tad Cook, K7VVV, Seattle, Washington, reports: Average daily sunspot numbers were up this week, rising 38 points over the previous week. Solar flux continued a decline from last week, with average daily flux down more than 18 points. Solar flux for the short term peaked January 29 and has declined since. Predicted solar flux for Friday through Monday is 190, 185, 180 and 175. Flux values should reach a minimum near 170 for the short term, then jump suddenly higher around February 16. Geomagnetic conditions are expected to be moderate.

SOLAR UPDATE cont.

For the past few days the earth has been in a stream of solar wind from a coronal hole, causing some geomagnetic activity. Planetary K indices were as high as four. Also on March 1 there was another solar wind disturbance commencing around 0558 UTC, which caused some aurora activity and planetary K indices as high as five. This is generally bad for HF communications because of absorption, especially over polar paths. What HF operators generally want to see are many sunspots, such as we have currently at the peak of this solar cycle, but without flares or the accompanying geomagnetic effects.
Sunspot numbers for January 31 through February 6 were 238, 256, 222, 273, 274, 286 and 226, with a mean of 253.6. The 10.7-cm flux was 242.6, 245.6, 240.6, 232.9, 234.6, 220.6 and 202.5, with a mean of 231.3. Estimated planetary A indices were 5, 11, 18, 5, 6, 16 and 16, with a mean of 11.

New Technology: I-Link by Mike, WB6DJI

Last weekend I tried an experiment for fun and it worked very well. We linked the W6TRW/R repeater to the internet gateway and connected our frequency with stations (repeaters) in Europe, Australia, and New York City. For Europe, we had WA2KDL (Chris) and Peter KK6ZQ (Peter) talking to 3 stations on a local repeater in London on Saturday.

Also via 145.32MHz we had talked with stations around the world, linked up to the VK2RMB repeater in Sydney, Australia. and talk to about 4 amateurs there on their repeater to our repeater.

Other connections for QSO have included working Manila in the Philippines also Berlin, Germany on their repeaters all on 145.32MHz via the WB6DJI-L linking system.

You may ask, I don't understand how this is done? On the Internet packets of digital data is sent back and forth. How can digital data 1's and 0's be like a voice? You everyday Cellular Phone take analog voice data and coverts it to a digital stream for CDMA type phones now commonly in use. If we take two computers and place one at each end of the internet link, equipped with proper Analog to Digital and Digital to Analog Encoders and Decoders with software that converts the voice to similar bit streams as in CDMA, we now have the necessary data packets to send back and forth through the internet, and thus we can tie our repeater to any repeater with similar hardware and software encoders and decoders.

The old IRLP system would only allow station-to-station equipment interface to talk with each other. This new system is based on a new software protocol similar to Cellular phone packets.

An additional advantage to this system, a ham with no equipment, just the internet and a sound card and microphone can access repeaters around the world. Thus a user could be at home with no ham equipment and work repeaters around the world. Hmmm.... NO TVI, fighting City Hall for that DX tower to talk to Europe. One ham in Europe has his Icom 756 set up on the internet in Finland so you can send DTMF tones to control the frequency of the HF rig and talk through the Internet. Pretty interesting stuff.

You may ask, how can Mike (WB6DJI) do it without hooking a computer physically in the 145.32MHz repeater. The simple answer is I do not need to do this.

Just a computer tied into a DSL line (keeps the wife happy with not tying up the phone line) and a simple transceiver on the frequency. No fancy equipment. Just a simple interface board (D/A and A/D board with a built in DTMF decoder) with an old TM-731A mobile rig I had laying around the shack.

New Technology: I-Link by Mike, WB6DJI cont.

You may ask, what is the DTMF decoder do?? You can be walking down on the beach as I was and sent a simple 4digit command code to my TM-731A (also tied to internet) and bring up the Sydney, Australia VK3RMB repeater and talk from my hand held to another hand held in Australia (down under). Every Repeater has a lookup 4 digit code you can simply type in an connect up via the HT!! The world all in the hands of you Hand Held.

If you interested in finding out more, go to the website http://www.aacnet.net/ and find out the real neat stuff you can do with this new stuff. This is not just an old IRLP hookup, you can talk around the world with just a computer, or HT to HT across the world. Free software and about $45.00 in parts!! Operates with any Windows Operating Software, NOT LIKE IRLP needing UNIX software.

73's and have fun !! Look for WB6DJI-R on the internet and you will never know who next in the world you can talk to on your local repeater.

Mike Aust
WB6DJI
Attached Page from website showing interface board. All you need is a transceiver and this board, free software and the Internet!

W6TRW AMATEUR RADIO CLUB

ELECTED OFFICERS

President	**Wendell Young**	**KE6ASC**	**R3/ 1086**	**(310) 813-2622**
Vice President	**Greg Martens**	**N6RRY**	**M1 / 1275**	**(310) 813-4049**
Secretary	**Wendy Crawford**	**KQ6CG**	**Carson**	**(310) 513-2060**
Treasurer	**Jason Fujino**	**KD6ELS**	**R5 / 2130**	**(310) 812-5461**

APPOINTED STAFF

447 Repeater Autopatch	Duane Park	WA6EIK	O1 / 1070	(310) 813-4219
Activities Chairperson	Mike Hamada	KF6UCN	M5 / 0435	(310) 814-2628
Crosstalk Editor	Duane Park	WA6EIK	O1 / 1070	(310) 813-4219
Emer. Comm. Coordinator	Wendell Young	KE6ASC	R5 / 1060B	(310) 813-7691
Librarian	Dave Nelson	AB6DU	DH4 / 1423G	(310) 764-3496
Membership Chairperson	Wendy Crawford	KQ6CG		(310) 513-2060
Past President	Bob Briggs	KD6WYQ	O1 / 1270	(310) 813-2622
Publicity Chairperson	Dave Nelson	AB6DU	R8 / 2144	(310) 813-9775
QSL Manager	Bryan DeAro	KN6OW	120 / 1020B	(310) 812-4789
S.P. Packet/Internet Sysop	Chris Wachs	WA2KDL	M4 / 2375	(310) 813-1506
SEA Representative	Chris Wachs	WA2KDL	M4 / 2375	(310) 813-1506
Swap Meet Manager	Greg Martens	N6RRY	M1 / 1275	(310) 813-4049
Technical Chairperson	John Cheatham	KE6OJM	R9 / 2477	(310) 813-5903
Training Chairperson	Bryan DeAro	KN6OW	120 / 1020B	(310) 812-4789
Trustee of W6TRW License	Elizabeth Kunkee	KS4IS	D1 / 1024	(310) 813-0524
W6TRW COMM Webmaster	Duane Park	WA6EIK	O1 / 1070	(310) 813-4219

BOLD=NEW

W6TRW ARC Hotline (Club Answering Machine)	(310) 813-8569
W6TRW 2 Meter Repeater (Open Repeater)	145.32 (-600) PL 114.8Hz
W6TRW UHF Repeater (Open Repeater / Closed Autopatch)	447.00 (-5 MHz) PL 100 Hz
W6TRW-3 Packet Radio Internet Gateway and BBS (1200 Baud Port)	146.745 (-600)
W6TRW Internet Home Page	http://www.w6trw.com/

W6TRW Amateur Radio Club
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