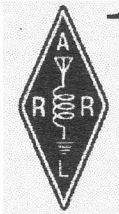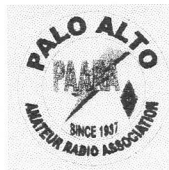# PAARAgraphs

Celebrating 63 years as an *active* ham radio club—*Since 1937*
Monthly Newsletter for the **Palo Alto Amateur Radio Association, Inc.**

CALENDAR

Apr   7, **PAARA Meeting**, 7:30,
Menlo Park Recreation Center
700 Alma Street, Menlo Park

Apr   12, **PAARA Board Meeting**, 7:30
Red Cross Bld., 400 Mitchell Ln., Palo Alto

May   5, **PAARA Meeting**, 7:30
May   10, **PAARA Board Meeting**, 7:30

2 m **CODE PRACTICE**, 2000 to 2030 PST Tues
N6NFI 145.23 repeater

PROGRAM

April 7, 2000
7:30 P.M.

Speaker:

Ronald Ross, KE6JAB*

Ham Built Remote Weather Station for Antarctic
(see next column)
⊛⊛⊛⊛⊛⊛⊛
Join us for pre-meeting eyeball
6 pm— at Su Hong Restaurant , 1039 El Camino Real, Menlo Park
⊛⊛⊛⊛⊛⊛⊛

——PAARA Radio NET every Monday evening at 8:30 P.M.,local time——
on the 145.230 -600 MHz repeater, PL tone off

NEW PAARA MEMBERS
Howard Califf KE6PWH
Jack Daane KR6CD
Rolf Klibo N6NFI
Scott Overstreet N6NXI
John Tumminaro KG6AGX

UPGRADE:
Steve Jeffrey W9ABZ General Class
—Thanks to Vic, AB6SO

Ham Built Remote Weather Station for Antarctic

Many people have built weather stations. But building your first one is always a challenge. Will it be remote or wired? What type of data should it collect? How many sensors should it have? There are many questions when you start a project like this. But when your first one is to be deployed in Antarctica on top of a mountain peak, you know you have an even bigger challenge. It has a much more hostile environment to deal with.

This was the challenge **Professor Twiggs** gave to **Holda Biskeborn** and **Ronald Ross** at the start of 1999. The deployment was to take place in Dronning Maud Land, Antarctica, December 1999. The design, fabrication, operation and results of will be reviewed.

Mr. Ronald Ross, KE6JAB, has 15 years of experience working in the electronics industry in the San Francisco area. He was born in Scotland where he was formally educated in Electrical and Electronic Engineering at Napier College,Edinburgh. His career began as an Engineer on board a Seismic Survey vessel in the North Sea with Texas Instruments. Not seeing the error of his ways for 3 years, he eventually made his way back onto land and out to the West Coast and Silicon Valley. His focus for the last 10 years has been in digital communications and more recently in wireless communications. He is currently employed as a Senior Hardware Engineer at Adicom Wireless, a company specializing in the use of spread spectrum technology. Mr. Ross has an avid interest in amateur radio and anything related to space. As an amateur operator he has 'worked' the MIR spacecraft and the Space shuttle. He has a personal interested in visiting very remote areas to test amateur satellite technologies. He presently is working with students build a Picosat for future space missions.

(courtesy Dick Kors, KM6EP)
*Ron's web site at www.thistle.org/dml_index.htm

Miscellaneous Dates

Flea Market at Foothill (info at: http://joslin.com/FleaMarket)
See page 35

PAARA Palo Alto Amateur Radio Association
meets 1st Friday 7:30 each month, Net 145.230 each Monday 8:30,
contact: Andreas Junge N6NU..............(650) 233 0843

FARS Foothill Amateur Radio Society
meets 4th Friday 7:30 each month,
contact: Sheldon Edelman 650-858-2176, Edelman@richochet.net

NCDXC Northern California DX Club
meets 2nd Friday 7:30 each month, repeater for member info 147.360, Thur 8:00PM,
contact: Bob Mammarella KB6FEC 408 729 1544.

NorCalQRP Northern California QRP Club
meets 1st Sunday each month,
contact: Jim Cates 3241 Eastwood Rd., Sacramento, CA 95821.

Perham Foundation,
contact: Jerry Tucker WA6LNV 650-961-3266

SPECS Southern Peninsula Emergency Communication System
meets each Monday 8:00PM on Net 145.27, 440.80 MHz, www.specsnet.org
contact: Tom Cascone, KF6LWZ, 650-688-0441 .specs@svpal.org

SCARES South County Amateur Radio Emergency Service
meets 3rd Thursday 7:30 each month, San Carlos City Hall.
Net is on 144.45 & 444.50 (PL-100) 7:30 Monday evenings.
contact:

SCCARA Santa ClaraCounty Amateur Radio Association
Operates W6UU repeater 146.385+ Nets: 2m, W6UU, 7:30 Mon; 10m,
28.385, 8:00 Thur. meets 2nd Mon each month.
contact: Jack Ruckman AC6FU

SVECS Silicon Valley Emergency Communications
Operates WB6ADZ repeater (146.115 MHz+)
contact: Lou Stierer WA6QYS 408 241 7999

WVARA West Valley Amateur Radio Association
operates W6PIY repeater 147.39+, 223.96, 441.875, 1286.2
meets 3rd Wed every month.
contact: Glen Lokke Jr. KE6NBO at 408 971 8626, or glokke@pacbell.net

Disaster Services,
PALO ALTO CHAPTER, American Red Cross
Meets 3rd Wed. each month 7:30PM,
HF, packet, BBS, ATV, OSCAR Gateway, NASA satellite,
contact: Alan Ball 650-688-0423.
SAN JOSE CHAPTER. American Red Cross
contact: Scott Hensley KB6UOO, 408 249 7093, fsh@richochet.net

VE Exams, 3rd Saturday each month, 11AM, 145.23- PL=100Hz
American Legion Hall,.651 El Camino Real, R.C.
contact: Al Montoya at WB6IMX@worldnet.att.net .

Contest Calendar
~Vic Black, AB6SO~
(for rules and exchanges, see www.contesting.com)
April, 2000

1,2	SP DX Contest 1500Z, Apr 1 - 1500Z, Apr 2
1,2	EA RTTY Contest 1600Z, Apr 1 - 1600Z, Apr 2
7-9	Japan Int. DX Contest, 20-10m 2300Z, Apr 7 - 2300Z, Apr 9
8,9	QRP ARCI Spring QSO Party 1200Z, Apr 8 - 2400Z, Apr 9
8,9	His Maj. King of Spain Contest 1800Z, Apr 8 - 1800Z, Apr 9
8	UBA Spring Contest, SSB 0700Z - 1100Z, Apr 9
15	Australian Postcode Contest 0000Z - 2359Z, Apr 15
15,16	YU DX Contest 1200Z, Apr 15 - 1200Z, Apr 16
15	EU Spring Sprint, SSB 1500Z - 1859Z, Apr 15
15,16	Michigan QSO Party 1600Z, Apr 15 - 0400Z, Apr 16
15,16	Holyland DX Contest 1800Z, Apr 15 - 1800Z, Apr 16
22,23	SP DX RTTY Contest 1200Z, Apr 22 - 1200Z, Apr 23
22,23	Helvetia Contest 1300Z, Apr 22 - 1300Z, Apr 23 -
22,23	Six Club Sprint 2300Z, Apr 22 - 0400Z, Apr 23
29-5/7	NA Hi Speed Meteor Scatter Contest 0000Z, Apr 29 - 2359Z, May 7
29,30	Florida QSO Party 1600Z, Apr 29 - 0159Z, Apr 30 & 1200Z - 2159Z,Apr 30
29,30	Nebraska QSO Party 1700Z, Apr 29 - 1700Z, Apr 30
29,30	Ontario QSO Party 1800Z, Apr 29 - 1800Z, Apr 30

MENLO PARK
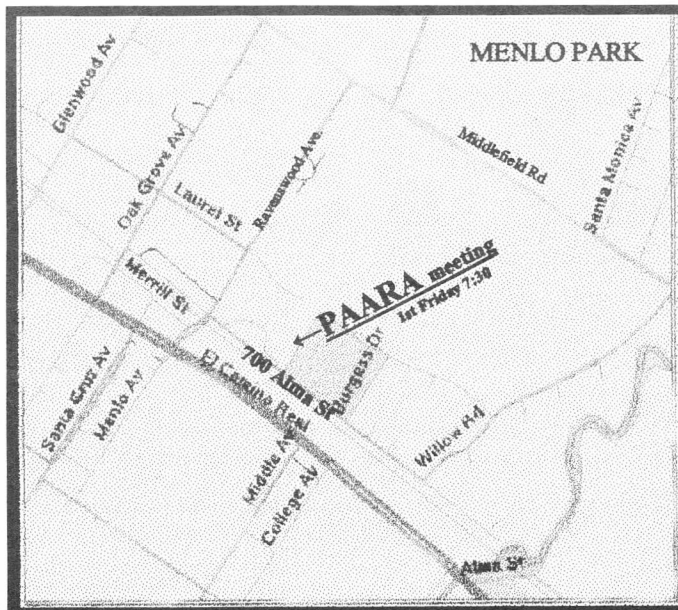
Technical Tip

Bill Jones is an award winning transceiver home brewer from Sanger, near Fresno. His sturdy, hand built radio enclosures are made from bits of scrap plastic, paper clips and paper and replicate Drake and Collins radios on a miniature scale. I asked him to describe his experiences getting on radio teletype. Here's his contribution to PAARAgraphs. ® Vic Black AB6SO.

Cheap and Easy RTTY

de **Bill Jones KD7S**

Getting on the air with RTTY is unbelievably simple. Depending upon what equipment you already have in your shack, you might be able to join the RTTY crowd with little or no cash outlay whatsoever.

The basic equipment you need for receiving and transmitting radio teletype signals consist of (1) a transceiver capable of single sideband operation, (2) a personal computer, (3) an interface between the computer and transceiver, and (4) software. Most of us already have the transceiver and computer so it's usually just a matter of buying or building a hardware interface and getting the program.

No doubt the quickest way to join the fun is to buy a commercial multi-mode controller and its matching software. Controllers are available from companies such as MFJ, Kantronics, Hal, plus others. While these full featured, high performance devices are readily available, the prices start at around $400 and go up from there. Fortunately, there are less expensive ways to get on RTTY.

One very cost effective way to explore RTTY is with the HamComm system. HamComm is a computer program designed to send and receive RTTY, AMTOR and CW using your SSB transceiver. Although the program is shareware, it is very sophisticated, stable and bug-free. The best part is that registration is only thirty dollars. The registered version also allows you to copy (but not transmit) PACTOR.

The HamComm documentation includes a schematic diagram for an extremely simple homebrew interface that connects your transceiver to a computer. A commercial controller isn't needed. Parts for the interface are available from your local Radio Shack store and the whole thing can be built for around ten dollars. While the basic homebrew HamComm interface won't match the performance of its commercial equivalent, it will provide many solid contacts under good conditions.

A much better interface is available in kit form from **Terry Mayhan, K7SZL**. Terry runs the "K7SZL's Unofficial HamComm Home Page" located at http://home.att.net/~k7szl. You can learn everything you ever wanted to know about the program from Terry's site as well as download the latest software version.

If your computer has a sound card there is an even easier way to get on RTTY. **Rob Glassey, ZL2AKM**, has just released an upgraded version of his program called BTL (Blaster TeleType). BTL uses your computer's sound card as a data controller. Performance rivals many commercial multi-mode controllers in every respect except price. The DSP filtering provided by BTL and the accompanying sound card is outstanding and I have printed (teletype talk for copied) signals I could barely hear in the headphones. QRM from adjacent signals rarely disrupts copy from the desired signal. The BTL opening screen is clean and uncluttered. The built-in help screens are accessible by pressing the F-1 function key.

So, how much does BTL cost? For a limited time **Rob** is offering the latest version to hams for......nothing. That's right, it's free. He does go on to say that this will probably be the last free version, however. On the other hand, anyone wishing to send a thirty dollar registration payment may do so with the understanding that it will go toward supporting his continuing work on this already outstanding program. Like HamComm, BTL is software worth paying for. I strongly recommend you try it.

The latest release of BTL is available on the Internet at the Blaster TeLetype Home Page located at www.geocities.com/ SiliconValley/Heights/4477/index.html. If you're looking for a change of pace, discover the joy of RTTY. You will not only meet some very interesting people, but it's just possible you may add some new countries to your logbook as well.

® **Bill, KD7S**

Ham Radio On Board!

Dear Fellow ARRL Member,

You know those annoying license plate frames that you follow into work each morning? Well...ARRL has produced one that isn't too annoying. Promise!

Introducing:

ARRL's Amateur Radio License Plate Frame.

In bold lettering, it says "Amateur Radio." Short and sweet. And, we've added ARRL's web address to the bottom of the frame. Just imagine all of the recruiting you can do! Loads of people will point-and-click their way into Amateur Radio after following you into work. (We've already had staff test it!!)

See it on the web and order your frames, today!
Amateur Radio License Plate Frame
ARRL Order No. 7989--$4.95 plus shipping
QUICK ORDER on the ARRL Web:
http://www.arrl.org/catalog/accessories_supplies. phtml#lpframe

What kind of Amateur Radio recruiter are you?
4-Star Recruiter: I'll get one for each of my family's cars!
3-Star Recruiter: I'll order one for each of my ham-friends!
2-Star Recruiter: I'll put one on the front and rear bumper!
1-Star Recruiter: I'll recruit the people behind my car!
Don't speed! Give them a chance to read the message:

Amateur Radio www.arrl.org
See you on the road...and on the air!

73, **Bob Inderbitzen, NQ1R**
Publications Dept.

PAARA PONDERINGS
de VIC BLACK, AB6SO

Results have been posted for the 25th Annual California QSO Party last October. The CQP is the premier state QSO party and attracts competitors from all over the world. The contest, which occurs on the first weekend in October, is considered a warm up for the ARRL November Sweep Stakes. The idea is for DX stations to work all 58 California counties and for California operators to work all 50 states and 8 Canadian provinces. Other DX stations may be worked for QSO credit, but they don't count as multipliers. The promoters make sure that all California counties will be represented in the contest in order to attract US County Hunters. Many operators mount Field Day-type DXpeditions to rarer California counties for the Party. Surprisingly, some of the rare counties are near by. For instance, if you've ever driven to Sacramento on I-80, you've driven through Yolo County, which is considered rare. PAARA member **Kit Kohlmoos W6ISO** was listed as one of only 48 entries to make a clean sweep in October by working all 50 states and 8 Canadian provinces. A total of 4,974 stations from around the world participated in the 1999 QSO Party.

Congratulations to PAARA member **Steve Jeffery W9ABZ** who upgraded to General Class. Steve could have waited for one month to upgrade with the new 5 word per minute CW requirement, but he decided to do it the "old fashion way" at 13 words per minute. Steve has been active on 6 meters and can now beat the rush to HF operation.

The annual ARRL Field Day is rapidly approaching. Last year PAARA had a surplus of CW operators, but we were short of phone, VHF, satellite and novice operators. Make plans now to participate in this year's event. With all of the new upgrades, there should be no excuse for a shortage of operators. You don't even need a license to operate since we will have control operators on duty. If you prefer not to operate, we can still use you to run the barbecue, etc. Come on out and join the fun. Field Day is designed to be a test of emergency preparedness and is one of the biggest domestic contests of the contest season. Part of the fun is in working from a field location, using emergency power sources and portable antennas.

Plans are being made to streamline setup and tear down so the operators won't be physically overworked. New rules this year allow 100 bonus points for a demonstration station using nontraditional modes such as APRS, ATV or SSTV. Best of all, these stations don't increase the overall station count for scoring, although the contacts don't count in the overall club score. If you're interested in this aspect of Field Day, contact the club officers. APRS could be used by interested parties who want to locate our Field Day site.

PAARAgraph's editor, **Wally Porter K6URO**, has agreed to publish regular monthly columns if we receive enough input to keep them going. Some suggested topics include Technical Tips, Kids' Korner, Historical articles, New Technologies, Beginners' Bulletin and PAARA Personalities. If you have any inputs, short or long, shoot them off to Wally for inclusion in the columns. If you'd like to start another column on a different subject, just let Wally know. PAARAgraphs is an award-winning newsletter. We want to improve it and make it even more useful for our members. If you don't feel up to the task, but would like a particular subject researched and published, let us know what you have in mind and we'll either write it or find someone to do it. Inputs can also be in the form of questions (i. e. Beginners' Bulletin: "Do AM radios only work in the morning?" etc).

Speaking of which, if you're one of the estimated 96% of Americans who listen to AM or FM broadcast radio each week, then a new technology, iDAB, is headed your way. The In-Band On-Channel Digital Audio Broadcasting format (iDAB), promises FM quality sound to AM stations and CD ROM quality to FM stations. The nation's 12,000 AM & FM broadcasters will use current frequency allocations to transmit analog signals simultaneously with higher-quality digital signals to eliminate multipath and noise, and reduce interference. More information can be embedded in the digital transmissions allowing new data services such as station, song and artist identification, stock market reports, news, local traffic and weather information, e-mail and Internet access, and more. Digital broadcasting is already being used in Europe and Canada.

Kenwood has recently unveiled digital radios designed for the US car marketplace. Satellite broadcasting will become mainstream when DaimlerChrysler begins to factory install digital receivers in its 2001 model year cars and trucks. They will be able to receive up to 100 channels of satellite programming, for a fee, including 50 channels of commercial free music. They plan to provide wireless burglar and theft systems and navigation aids for an additional monthly fee. Ultimately, the FCC plans to phase out analog broadcasting completely and replace it with digital signals only. Although sound quality will be improved, it's disturbing that many of the benefits will be available only in exchange for a fee. We're eagerly awaiting the day when some of the new technology becomes available for amateur experimentation.

Dean Manley KH6B reminds us of the 8th Annual Moku Ola Island DXpedition to a beach park on an island in Hilo Bay, Hawaii. The Hawaii QRP Club sponsors this event each year so listen on the usual HF QRP frequencies for the very special club call sign AL0HA on Saturday, April 29.

WORLDRADIO
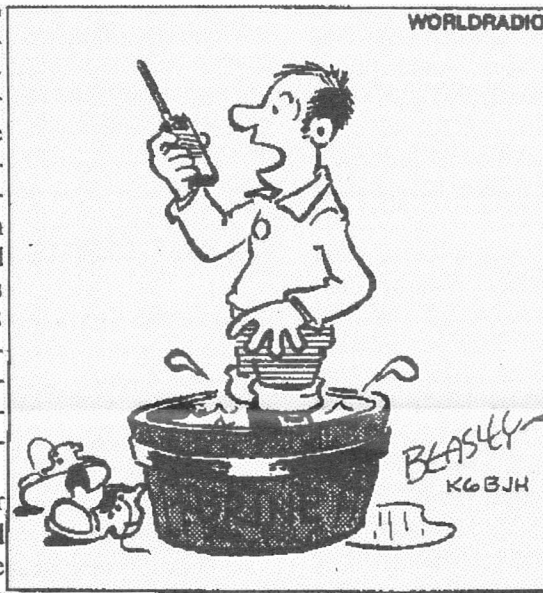
AM I HITTING THE REPEATER ANY BETTER? I THINK I GOT A BETTER GROUND

BEASLEY K6BJH
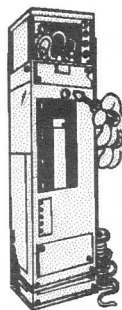
WEB WANDERINGS
de **Vic Black, AB6SO**

For a Palm computer satellite tracker program, **Peter Simpson KA1AXY** recommends http://www.emmgra phics.com/ pilot/pocketsatinfo.html. He reports, "I happened to catch NASA TV on my cable system, which showed that the shuttle's flight path reaches my latitude. I downloaded the current orbital parameters and plugged them into my Palm to see when the shuttle came over Massachusetts. It came over just when my Palm, running Jim Berry's PocketSat, said it would. I had my Palm out and watched the bright dot traverse the sky as the flashing box traveled down the arc on my Palm's screen. 'Cool! Wow, this is neat!' If you have a Palm, and like doing satellite stuff, buying this program from Jim is the best use you can make of $12.50. It's a bargain, and Jim has done a superb job on it."

Home page for qth.net mailing lists is http://www.qth.net. The extensive menu has titles by topic, band of interest, Clubs, States, and activities such as ARES or Skywarn. PAARA's e-mail reflectors (PAARA for club announcements and PAARAcube for satellite activities) are listed under Clubs.

Select a reflector from the menu, fill in your e-mail address, and click "subscribe" or "unsubscribe". Click "submit request" and the transaction will take place. There are buttons for Help, Information, Digests and Archives. Use "List Search by Subject" to research particular subjects. Digests are handy if you subscribe to a popular list. Instead of having to down load many messages per day, the digest will send an entire day's posting as one message which can be read off line at your leisure.

After license upgrades start in April, expect an upsurge of new (to HF) operators trying new modes for the first time. Most will get on SSB to work DX at the height of the solar cycle. However, a lot of new upgrades may be interested in HF data modes (at least that's what they've been saying for years!). If this describes you, you will certainly want to go to http://www.muenster.de/~wel p/sb.htm which is the web page for the Amateur Radio SoundBlaster Software Collection by Oliver **Welp DL9QJ.**

You'll find a large collection of commercial programs, shareware and freeware that use your computer's soundboard processing capabilities. There's S/W for packet, RTTY, multimode, FAX, SSTV, Hellschreiber, CW, coherent CW, high-speed meteor scatter CW, CW pileup trainers and the latest digital mode, PSK-31 (which, by the way, uses Varicode, a keyboard form of Morse code). There's software for DTMF encode and decode, ACARS, voice and recording tools, HF beacon monitors, FM transmitter ID and more. Virtual test equipment S/W includes AF spectrum analyzers and sine wave generators. Receiving aids include DSP and audio filters. There's S/W for MS-DOS, Win 3.1x/95/98/NT, some Linux and a bit of MAC operating systems. Use hyperlinks to download freeware. Trying a new mode such as RTTY can be as simple as downloading freeware and connecting your transceiver to your computer. Bookmark this for future reference.

I've been touting PSK-31 because of its ability to provide 100% copy even when you can't hear the weak signals by ear. There's more to PSK than just keyboard-to-keyboard. **Alan Gibbs VK6PG** has posted a paper at http://www2.tpg.com.au/ users/vk6pg/vk6sig/psk31.doc that hints at things to come. Alan says, "New developments in PSK operations include digital, multi-channel telephony with 60 simultaneous PSK signals all within the spectral occupancy of one existing SSB transmission. Specialized PSK development kits (Motorola DSP56002EVM by G3PLX) can be used in Amateur Radio communications, and in digital telephone and satellite applications. Even the principles of the forthcoming digital TV systems rely on PSK for minimizing spectrum occupancy." This is it, gang. Digitally enhanced HF voice communications.

Howard "Skip" Teller KH6TY offers freeware for sending color photos using PSK-31at http://members.home.com/hteller/ psk31pictures. The software has been offered for less than two months, so you have a chance to get in on the ground floor of an exciting new mode subtype. The software transmits photos encoded as text by PSK-31, and then decodes the text back into a photo at the receiving end. Photos sent by PSK-31 are shown at the web site along with complete instructions for use and hyperlinks to the free software.

You may have seen the prototype "really cheap Yagis" that **Ron Carmichael KQ6RS** and I have been testing. Go to http:// www.clarc.org/Articles/uhf.htm for the antenna design information. The Yagis are built on wood furring strips or PVC pipe using ground wire elements and a modified, no-tune gamma match. They provide high gain for a few dollars (about $5 per antenna if you have a few parts I your junk box). Various length antennas are documented for 2 meters, 220, 440, and 902 MHz, plus 1.2 GHz. These high performance antennas are so simple you can make them without tools if you are handy with duct tape.

Phase 3-D satellite may launch by July. It's now in South America waiting for the launch package to be assembled. Go to http://www.amsat.org for the latest launch info. There's info about other satellites that you can work easily. AO-27 can be worked using a hand held, dual band transceiver running a couple of watts. You can also use a 2 meter HT with a scanner for receiving. You'll need a good receiving antenna since the satellite runs only 600 milliwatts. One of the "really cheap Yagis" discussed above will work fine. A mag mount vertical works for transmit on low angle passes. Some operators prefer to use headphones with AO-27 in order to avoid feedback since they're operating crossband duplex. I've seen setups with a "Y" cable in the headphone line. The second line goes to a tape recorder to facilitate logging without having to write while tracking the satellite with the antenna in one hand and the radio in the other hand.

Dave Johnson VE7VR, Co-Chairman of the DX2000 Organizing Committee, has invited PAARA members to attend the PACIFIC NORTHWEST DX CONVENTION DX2000 July 28-30, 2000. Dave said, "The BC DX Club and the Fraser Valley DX Club invite you to DX2000 in beautiful Vancouver, BC, Canada. We've changed our venue to make this event as

Technical Tip

de Vic Black AB6SO

Guitar Tuner

Tom Whalen WB5QYT recently built an MFJ CUB transceiver. Here's how he calibrated it:

"In tuning it up I used my son's Guitar Tuner. I used it to not only help me set the BFO (about 600 Hz), but also to set the carrier offset to about the same 600 Hz tone. The 'D' note is very close to 600 Hz and the 'C' note is closer to 500 Hz."

I've decided not to buy another motorcycle. This approach to enlightenment seems better. **Jay Melvin, WA6SBO**
http://www.ralabs.com/webradio/about.html

N2JEU's Web Controlled Radio

The web-controlled radio provides near real time audio from a Kachina 505DSP amateur transceiver used as a SWL receiver and the Icom IC-75 desktop shortwave receiver. This is a RE-CEIVE ONLY application. There are no plans to add full transceiver operation.

It works like this:

The main web site uses a 112K ISDN full time connection to the Internet via Dreamscape in Syracuse, NY. The main web server uses Microsoft Windows NT and Web site version 1.1f to provide the web pages. It also runs a copy of the RealNetwork Basic Server software to provide the near real time audio.

The Acsend Pipeline 75 router connects the ISDN line to the coaxial based Ethernet network in the house and ham shack. This lets me use a PC located in the ham shack as the radio controller and audio digitizer system. I use a Pentium 133/166 systems running Windows 95/98 with Web site 1.1f, RealNetwork's Encoder software for the audio and special Windows CGI software I wrote to provide the web to radio interface.

The software is written in Visual Basic 4.0. It sends the frequency entry page then a confirmation page when you enter a frequency and mode. The frequency and mode you select is converted to the proper format for the radio and sent to the radio by a serial port.   Limits of the system:

1)   The whole thing connects to the Internet using a 112k ISDN line. As a result there are limits on the number of users connecting to the system at once. The connection will handle up to 7 audio/video connections.

2)   Currently there is no control on frequency changes. You could change the frequency then another user could change the frequency a few seconds later. Limits on who uses the system and how often will come in a future software version.

3)   The audio stream does not change immediately after a frequency change. This is because the RealAudio player buffers a few seconds of audio to smooth out network congestion problems. It can take up to 15 seconds or so for the audio to change. THIS IS NORMAL.

4)   This is not a full time effort. The radios and PCs are part of my ham station. I do plan on getting back on the air as the conditions improve. If the servers don't respond then I'm either using the radio, the computer or working on the software. The radios will return to operation when I'm finished. RealPlayer error messages

A few users have reported error 19 messages from the RealPlayer software. It simply means that the server has all the connections it can handle when you tried to connect. Please try again later if you have trouble getting an audio connection.

A big thanks to the folks that reported the problem. The site has become much more popular than I ever thought it could be. The system activity reports show hundreds (closer to thousands actually) of " hits " per day on nearly everything on the site.

If you get other error messages when trying to connect to my audio server, make a note of the message number then click on the link below to search the RealNetwork trouble-shooting pages. Their Knowlege Base is located at: <http://service.real.com/kb/default.htm>

Please look at this site BEFORE you send me a message about troubles with the RealPlayer software. All known problems have been corrected on the system here. It's likely that any remaining problems are due to configuration or older versions of support files on your computer.

That about wraps it up for now. Please feel free to send suggestions or trouble reports to the address below. If enough folks ask I may make the software to do this available. Currently there are no plans to do so.

Questions? Go ahead and send email to **Bob Arnold N2JEU** at <arnoldr@mail.ralabs.com>

Visit the Random Access Labs web pages for additional information on electronics, SWL'ing, amateur radio, robotics and much more.

GOT A TIP?

For

Beginning or Experienced

Hams

Mail or e-mail text to PAARAgraphs editor (page 30)

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fun and interesting for your spouse & children as it is for you. Our new hotel was chosen for its excellent location and facilities. We're working on a fresh, new program and will be inviting many of your friends from the DX, QRP and Contest world. We look forward to your attendance to make this event the best ever. Check our web site http://www.bcdxc.org for more information and downloading of registration form. See you in Vancouver at DX2000!

® Dave Johnson VE7VR
ve7vr@rac.ca "

Free U.S. Geological Survey topographic maps are available for the entire U S at http://www.topozone.com.

For practice license upgrade tests after April 15, try the new VEC question pool at http://www.arrl.org/arrlvec/pools.html.

® *Vic AB6SO*

Power Outage

The majority of New Mexico went dark Saturday, March 18, 2000. Here in Socorro, brownouts started around 4:30pm with the line voltage dropping to 70vac, which killed my PC. Power finally died completely about 4:45pm. It was not restored where I live until about 9pm. It was unique tuning across the FM band and absolutely nothing was on the air. Only one AM station was left on the air, KOB 770AM in Albuquerque. They took almost 45 minutes before they interrupted their precious ESPN sports gig to inform everyone that virtually the entire state of NM was in the dark. Pretty shameful service for the only 50KW station in the state. And even then, there was NO information at all as to the cause or possible time for restoration of service.

About ten minutes after the power went out, I turned on the 2M rig to our local repeater, plus a couple of repeaters in Albuquerque and Mt. Taylor, and they had ALL THE INFO on what had happened. A brush fire near Farmington, and the big power plant there, caused the 380 KV lines to arc when smoke caused the air to become conductive. This shut down a generator. The increased load on the other lines caused low voltage, which tripped another generator and so on. Bottom line: 85% of NM was in the dark (over 1 million people). It was another hour before the information as to the cause hit KOB AM and the two TV stations left on the air.

MORAL OF THE STORY: Virtually all mass media was down for hours. Cell phones were down. Many communities had no emergency communications or 911 support except the few with emergency generators. The State Patrol computers were down, etc. My Internet server didn't come up for nearly 24 hours! Yet, on the 10pm news, everyone bragged how well the emergency was handled. Huh?

BUT HAM RADIO WAS ALIVE AND WELL. Every 2M repeater I can hear at my QTH was buzzing with traffic, qualified updates, passing the word, and even some fellas taking oxygen bottles to a nursing home for patients in distress with breathing (because their oxygen generators ran off electricity).

So, for those of you who think the emergency communications aspect of amateur radio is gone due to cell phones, etc., think again. Keep those rig batteries charged, because you never know when YOU might be sitting in the dark for 4-5 hours. Besides, between chatting on 2M and 40M CW with the LOW noise level, it was a great way to pass the time :-)

® 73, **Paul Harden NA5N**,
National Radio Astronomy Observatory <na5n@rt66.com>
® *courtesy Vic Black, AB6SO*

I DON'T THINK THAT'S AN EARTHQUAKE --- THAT'S JUST SOME OF THE OLD-TIMERS TURNING OVER IN THEIR GRAVES!!

WORLDRADIO

NEWS ITEM: NEW ZEALAND'S **"ORACLE"** WANTS TO ELIMINATE MORSE CODE PROFICIENCY AS A REQUIREMENT FOR FULL PRIVILEGES ON THE HF AMATEUR BANDS.

Extraterrestrial PAARAnoids Excel

El Presidente, N6NU, has entered the elite top 1% of the over 1.8 million data-crunchers for the <SETI@home> project. Andreas has completed 956 work units of data from the giant Arecibo radiotelescope in Puerto Rico as of March 16th. At his present processing rate, he should easily exceed 1000 work units by the end of March and approach 3 years of CPU time on the multiple computers that he is running.

N6NU is followed closely by **N6RY**, with 940 work units completed. **Terry** should also hit the 1000 unit mark by March 25th, since he is now finishing 8 units per day on average.

The top ham SETI seeker is presently **VY1BB**, with 8,492 work units completed. Of course, his total is a pittance compared to the 584,873 units completed the top user with a large complex of Sun workstations that have run over 426 years of CPU time!

Both **Andreas** and **Terry** joined the "Amateur Radio Operators" group at <http://setiathome.berkeley.edu> to combine their work unit totals with hams from around the world to compete against other interest groups for bragging rights.

It's not too late to download the free screensaver combined with signal processing and help look for radio signals from possible intelligent life in our galaxy. The software is available for most modern processors and operating systems, including Win95/98/NT (32MB RAM minimum), Apple, Linux, and many other UNIX variants on a multitude of platforms.

If you're already a participant, send an e-mail to <n6ry@arrl.net> and let him know how you're doing.

® **Terry Conboy, N6RY**
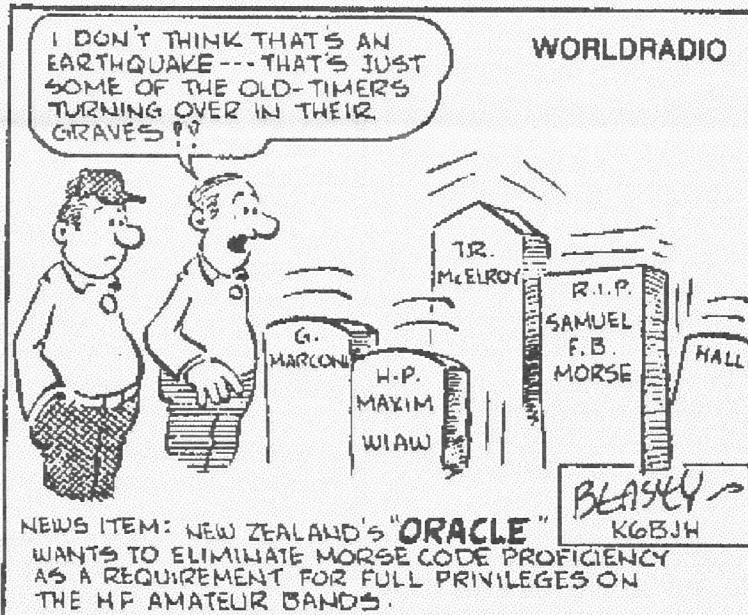
US Appeals Court

ARRL Headquarters
Newington CT March 9, 2000

ARLB014 US Appeals Court Upholds RF Exposure Regulations

The US Court of Appeals for the Second Circuit has upheld the FCC's 1996 RF exposure guidelines. The court also turned away a challenge to the FCC's exclusive ability to regulate relevant radio facility operations. The wide-ranging challenge was brought by the Cellular Phone Taskforce joined by other petitioners including the Communications Workers of America.

In an opinion released February 18, the three-judge panel upheld the FCC against the challenges on all points.

The petitioners, in part, had claimed the FCC failed to account for non-thermal effects of RF radiation, didn't evaluate new evidence, failed to get expert testimony, and failed to account for "scientific uncertainty" about RF exposure in deciding to not lower the maximum permissible exposure levels below the maximum permitted thermal levels. The petitioners also faulted the FCC for adopting a two-tiered MPE level system that allows for higher exposure in "occupational/controlled" situations than in "general population/uncontrolled" situations.

Additionally, the Appeals Court:

said the FCC was not irrational, arbitrary or capricious in its decision and that it did not ignore "substantial comments" from experts.

noted that licensees are still responsible for compliance "and an interested person can petition the FCC for review of a site believed to violate the MPE levels."

disagreed that an environmental impact statement was required from the FCC.

rejected the petitioners' arguments that by not considering RF interference with medical devices, the FCC failed to take a hard look at the environmental consequences of its actions.

rejected arguments that the FCC did not enjoy broad preemption authority over state or local government under the Telecommunications Act of 1996 to regulate wireless service facilities.

ARRL RF Safety Committee Chairman Greg Lapin, N9GL, credits the FCC with being comprehensive in developing its RF safety regulations and thinks the Appeals Court did the right thing. "The FCC is not a health and safety organization, and the Commission never intended the rules to serve as a standard," Lapin said.

Lapin pointed out that the FCC's rules are based on accepted American National Standards Institute/Institute of Electrical and Electronics Engineers and National Council on Radiation Protection and Measurements standards, "which, in turn, are based on mountains of research and the opinions of lots of experts," he said.

The resulting rules take into account a consensus of expert opinion on the topic of RF safety. "The appeals court recognized this in its decision," Lapin said.

Letter

Nice to get the PAARA newsletter here in rainy Grenoble, it's a bit of sunshine delivered on screen. Hope that someone from PAARA will be as active in RTTY as I have tried to be. Still setting up my antennas here. Work takes more than a due share of my time. Have my Elecraft K2 (#140) running on a small under-the-roof 14MHz dipole and have some occasional fun. In the recent RTTY contest I had some good contacts with this limited setup: JA, LU, W2, were the highlights. The rest was Europe or Ukraine. Big fun all in all for 5 hours of operating between other family events. Say hi to all. Will give a holler on the usual repeaters and try to hook up again when I return from France to California!

                    ® 73 **Arne Luhrs KF6EDK**
            arne_luhrs@gre.exch.hp.com

[PAARA] Field Day 2000 Rules Announced

The official Field Day 2000 information packet now is available online in PDF format at the ARRL Contest Branch Web site http://www.arrl.org/contests/announc ements/fd/fdpack.pdf. You can download this packet, which includes the official rules and forms for FD 2000. To order the packet, send an SASE with three units of first-class postage affixed to Field Day Package, ARRL, 225 Main St, Newington, CT 06111.

A new bonus point category has been added for Field Day 2000. Groups can earn 100 bonus points by setting up a demonstration of a "nontraditional" amateur mode, including APRS, ATV or SSTV. The bonus does not include modes for which regular QSO credit already may be earned (such as AM or FM on phone, or packet, PACTOR, AMTOR or PSK-31 on digital). QSOs made via the demo station do not count toward the Field Day score, and the transmitter does not count toward the transmitter total.

There are no rule changes regarding the special Novice/Tech Plus station.

The Field Day participation pins also are back this year. To earn a pin, all you need to do is participate in Field Day—no minimum number of contacts to achieve or ARRL sections to work. The pin is for anyone active in helping to make Field Day happen—from the set-up crew and on-the-air operators to the covered-dish organizers and generator crew.

Field Day 2000 pins are available now for $5 each. Send orders with payment to Field Day Pin Order, ARRL, 225 Main St, Newington, CT 06111. Early orders are recommended, since the 1999 pins sold out rapidly. Clubs and groups are encouraged to purchase their pins together.

For more information on Field Day 2000, contact Dan Henderson, ARRL Contest Branch Manager, n1nd@arrl.org or 860-594-0232.

—Dan Henderson, N1ND

Thanks to The ARRL Letter and the ARRL.

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Menlo Park, California 94026

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VISITORS WELCOME

Korsak, Andy KR6DD
504 Lakemead Way
Redwood City, CA 94062-3919