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WORLDRADIO

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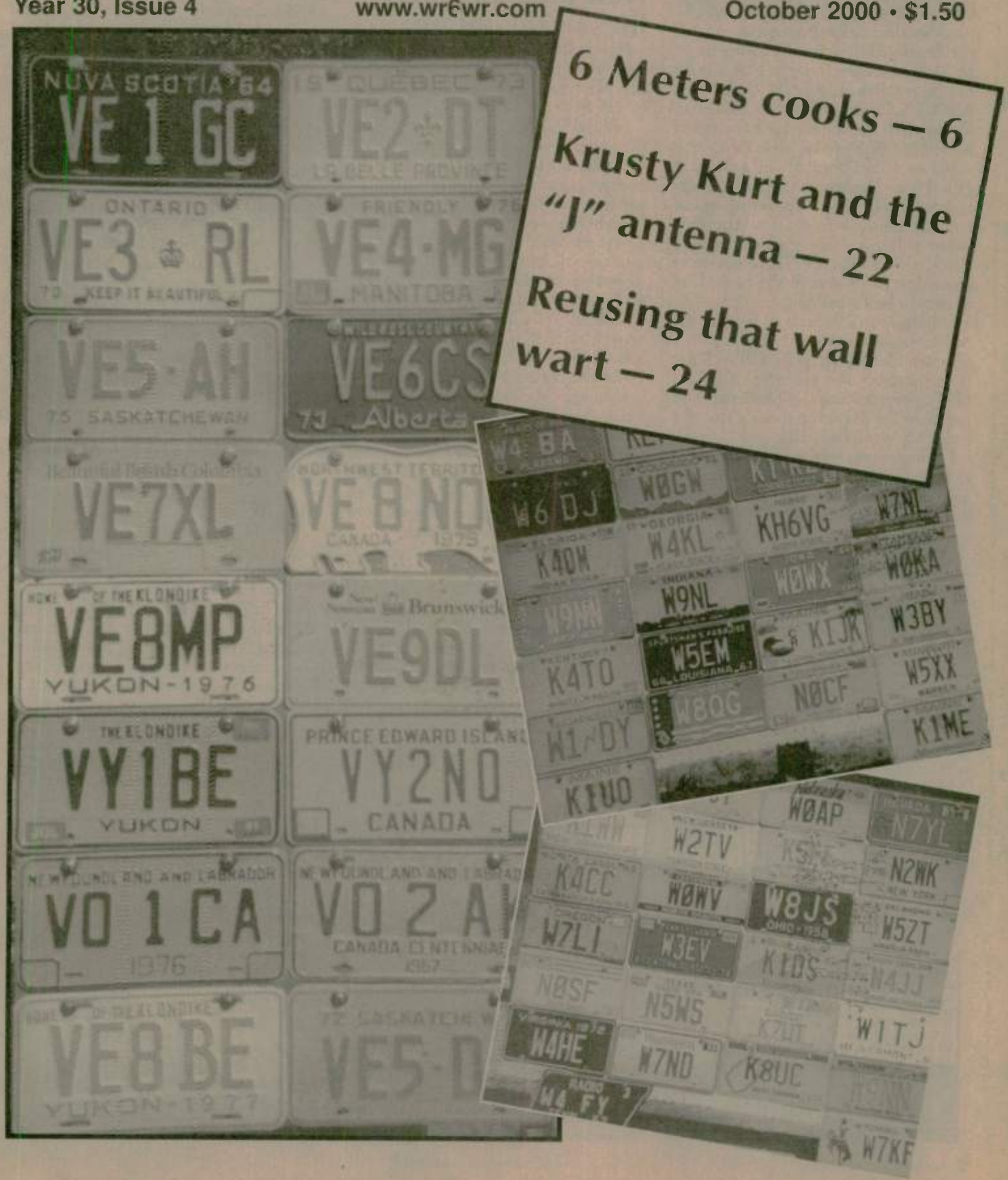

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Questions for Beverly Hills Police

A Southern California Amateur Radio operator is being asked to explain why he used Amateur Radio frequencies to assist the Beverly Hills Police Department. In an 14 August letter from the FCCís Riley Hollingsworth to Ronald Derderian, KB6VTN, Hollingsworth tells Derderian his agency has monitoring information indicating that on 13 June Derderian acted as a ìnet controlî of a Beverly Hills Police Department Disaster Communications System operating on an amateur repeater frequency. Also that other amateur call signs were noted checking in to the net. Those operators seemed to be of cers in the immediate vicinity or in the building.

Hollingsworth goes on to say that the net control station was operating on a repeater identifying as N6CBW. That is presumably the repeater call sign. Hollingsworth states that Derderian gave notice to the Ham community that the frequency was ìrestricted.î

Hollingsworth warned KB6VTN that amateur frequencies are not authorized for police use. He also told Derderian he does not have authority to restrict any amateur frequency for a speci c use.

Derderian was given the customary 30 days to respond to Hollingsworth. His reply must contain speci c information regarding this Beverly Hills Police Department Ham radio operation. He must also explain the authority under which he was acting.

And there is a rather strange aside to this story. Hollingsworthís letter to Ronald Derderian was sent to 464 North Rexford Drive in Beverly Hills, which just happens to be the headquarters building of the Beverly Hills PD. ó *FCC, Newsline*

New amateur satellites in the offing

New amateur satellites are reported on the way as payloads from Saudi Arabia and Malaysia are set to launch later this month from Russia.

SAUDISAT-1A and SAUDISAT-1B, the rst Amateur Radio satellites from the Kingdom of Saudi Arabia, are under construction at the Space Research Institute in Riyadh. Tentatively set to launch August 25 from the Baikonur Cosmodrome, Kazakhstan, the two satellites will be capable of 9.6 kB digital store-and-forward operation as well as FM bent pipe mode.

SAUDISAT 1A will have a downlink on 437.075; SAUDISAT-1B will downlink on 436.775 MHz. VHF uplinks will be announced after commissioning.

ìAmateur Radio is in its infancy in Saudi Arabia,î said Dr. Turki Al Saud, director of the Space Research Institute. ìWith these satellites we hope not only to add satellites to the space resources available to Hams worldwide, but to increase the awareness of the value of Amateur Radio in the Kingdom.î

The rst Malaysian amateur satellite, TIUNGSAT-1, is also to be launched on the same vehicle. The new bird will offer FM and FSK (at 9.6, 38.4, and 76.8 kB) with uplinks at 144.46, 145.85, and 145.86 MHz and downlinks at 437.300, 437.325, 437.350, and 437.375 MHz. The package also includes the Multi-Spectral Earth Imaging System and Meteorological Earth Imaging system payloads. The Malaysian spacecraft is the result of a technological collaboration between Astronautic Technology and Surrey Satellite Technology Ltd. An animation of the TIUNGSAT-1 launch is available at the SSTL site. ó *AMSAT, ARRL Letter*

Mir to be manned permanently

MirCorpís board of directors recently approved a permanently manned operation of the Russian Mir space station beginning next year. The announcement signaled a major milestone in the companyís plan to use the unique facility as the worldís rst commercial orbital space station. A schedule of privately nanced MirCorp -ights begins with the launch of an unmanned resupply spacecraft to Mir this fall, followed by two long-duration missions with cosmonauts in 2001. The implications for Amateur Radio operation from the station remain unclear. ó *AMSAT, ARRL Letter*

Kenwood Sky Command system not legal

The FCC has told Kenwood Communications its Sky Command remote base interface system is not legal under the current Amateur Service regulations. It does not comply with Section 97.201(b) of the Amateur Service rules, and the FCC says it will not consider any changes to the rules to legalize Sky Command as Kenwood had requested.

Sky Command is the trade name for a unique system that permits a dual band VHF/UHF transceiver to be interfaced to a high frequency transceiver with the

HF radio serving as a remote-base. The owner of these radios can then operate the high frequency bands from a remote location as long as he or she is within range of the High Frequency station. It all sounds simple, and it is, except for one tiny detail — the use of the two meter band to transmit received High Frequency audio to the system owners remote control transceiver. The FCC rules specifically state that no remote link can be operated on any frequency below 222 MHz.

When it filed for the waiver and rules change, Kenwood said it believed its Sky Command System was in full compliance with all applicable Part 97 rules. Immediate opposition came from the American Radio Relay League and numerous FM interests. The FCC wrestled with the questions for several months and has finally agreed with those who oppose Sky Command in its current incarnation.

At this point Kenwood has three main options. It can withdraw the product from the U.S. Amateur Radio marketplace, it can reengineer it to comply with section 97.201(b) or it can appeal the matter through the administrative process and in the federal courts. Kenwood can also decide to market Sky Command to Hams in in other countries where such a system is permitted. — *FCC, Newsline*

About the cover:

Ron Allen, W3OR, sent us photos of his collection of Amateur Radio license plates.

WORLDRADIO

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Editor's Log

And the telephone just keeps on ringing! I'm talking about our new number for subscriptions — 877/472-8643. Keeping it especially busy was this new group of *Worldradio* Lifetime subscribers:

- **Craig Fry, WL7C**
  Amherst, NH
- **Alan McChesney, N2ZHS**
  Scotia, NY
- **William Holtz, KA2WNS**
  Rochester, NY
- **Peter Macchiaroli, KB3ERE**
  North Huntingdon, PA
- **Don Hunter, N9QJV**
  Evansville, IN
- **J.W. Patterson, WB4HKE**
  Waukesha, WI
- **Steven Walz**
  Kiowa, KS
- **Carl Manning, K5ROR**
  Granbury, TX
- **Julius Gottlieb, KE6GMF**
  Palm Desert, CA
- **Phil Cornyn, KF6MXK**
  Brisbane, CA

The sign of true friendship — Don Hunter, N9QJV, received his Lifetime subscription from his buddy, George Vanada, WA9OCO. We should all have friends like that! Way to go, George!

And to each and everyone of you, thanks for joining the crew!

•

Now we're getting somewhere. The quest for DX QSL cards continues, but the score is now: WF6O 30, DX 4. Yes, I received four of the coveted QSL cards since my last editorial. Apparently I was doing it all wrong — these four cards came via the bureau! I hope those four DX stations had a nice tall cold one on me. Silly, silly me! Sending a "green stamp" when all I had to do was send them via the bureau! Even though the DX stations said "QSL to call book address." Boy, do I feel foolish!

•

Otto Freytag, K4QFM, asked a question that frankly, I can't answer. So I put the question to all of you. "I'm writing to any and all publications and asking a single question — what can we Hams that do not use a computer do to get a list of U.S/DX call signs? I feel I'm not the only one with call books 6-7 years old. Can you help?"

For those of you that don't know, Otto is a living legend among former Coast Guard Radiomen. I never had the pleasure of serving at the same unit, but Otto is a retired Chief Warrant Officer and one of the best CW operators in the world. So he deserves an answer. Only problem is, I don't have one for him.

The demise of the call books was brought about by cost. It costs much, much more to print a call book than to crank out a CD. If you print, let's say 50,000 copies of the call book, your cost will be in the area of about $10 for each copy printed. A CD can be reproduced for about $.50 each. And a CD takes up less space, and is much easier to handle. So it's a matter of economics.

But that doesn't help Otto. Anyone have any ideas?

•

Usually, I refrain from printing poetry in *Worldradio*. But, Fred King, N1UF sent this in, written by his XYL in 1938 when she had a real problem getting his attention. Fred was having a really good time making contacts on 40 Meters at the time, and having a ball! Make sure you show this to your XYL. I sure am going to show it to mine!

Ham Manners

When to the receiver
His ear is glued
He's merely concentrating —
He isn't being rude

He doesn't hear you talking
Or says "Yes" when "No" makes sense
And bends his head to "Dit dah dah"
With an interest most intense

He doesn't know that dinner's served
And growing very cold
He nods his head to frantic calls
Then forgets that he was told

All you hear save code and static
Is, "Damn that bum condenser"
Though the fog in London's thick,
they say
Round a Ham shack it is denser

A wifely peck's a bother
A hug invites disaster —
And the poor befuddled bride can't
see
Why on earth he "QST'er"

Till by and by he comes around
And says, "The bands gone dead"
"How are you, darling, when is
dinner"
What was that about the furnace you
said?"

"Dot" King, 1938

"Brick-Wall" Selectivity

Today's elite-class operators demand the best RF weaponry available. Yaesu's exciting new MARK-V FT-1000MP answers the call, with an expanded array of receiver filtering, 200 Watts of power output, and Class-A SSB operation capability for the cleanest signal on the band. Enhanced front-panel ergonomics save you seconds in a pile-up or a contest run, and Yaesu's HF design and manufacturing know-how ensures that no short-cuts have been taken in our effort to bring you the best HF transceiver money can buy. For more QSOs in your log, and more awards on your wall, there is only one choice: the MARK-V FT-1000MP from Yaesu!

I. IDBT: Interlocked Digital Bandwidth Tracking System

The IDBT™ feature greatly simplifies operation by matching the bandwidth of the DSP (Digital Signal Processing) system to the net bandwidth of the 8.2 MHz and 455 kHz IF stages. The IDBT system accounts for the settings of the IF WIDTH and SHIFT controls, and automatically sets a DSP bandwidth which matches the analog IF bandwidth.

II. VRF: Variable RF Front-End Filter

Protecting the MARK-V's receiver components from strong out-of-band signals, the VRF system acts as a high-Q Preselector, located between the antenna and the main bandpass filter networks, providing additional RF selectivity on the 160-20 meter Amateur bands for multi-operator contest teams, DX-peditions, or for operation near MW/SW broadcast stations.

III. 200 Watts of Transmitter Power Output

Utilizing two Philips® BLF147 Power MOSFETs in a 30-Volt, push-pull configuration, the MARK-V's transmitter puts out up to 200 Watts of clean output power, thanks to the conservative design of the FA section.

Class A 75 W PEP IMD

IV. Class-A SSB Operation

Exclusively available on the MARK-V FT-1000MP, a press of a front-panel button engages Class-A SSB operation of the transmitter, at a power output level of 75 Watts. Class-A operation produces incredibly clean signal quality, with 3rd-order IMD suppressed 50 dB or more, and 5th- and higher-order products typically down 80 dB or more!

V. Multi-Function Shuttle Jog Tuning/ Control Ring

The immensely popular Shuttle Jog tuning ring, which is concentric with the Main Tuning Knob, has a new look in the MARK-V: it now includes the activation switches for the VRF (left side) and IDBT (right side) features, so you don't have to move your hand position to activate these important circuits during contest or pile-up situations!

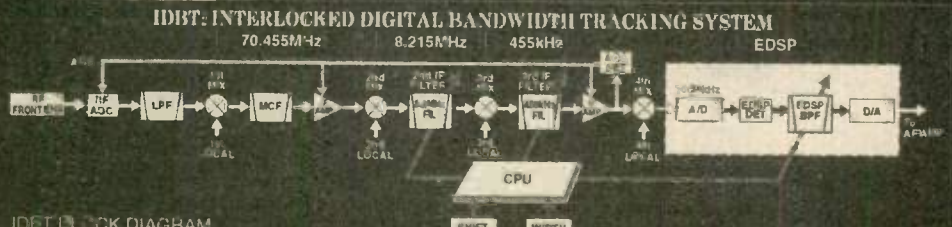
IDBT: A Breakthrough in Selectivity!

DC 30 V / 13.8 V Power Supply FP-29

Photo shows optional MD-100A8X Deluxe Desk Microphone

HF 200 W All-Mode Transceiver

MARK-V FT-1000MP



IDBT BLOCK DIAGRAM

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Summer 2000 — 6 Meters cooks

Ken Neubeck WB2AMU

A lot of different types of propagation are being observed on the Magic Band so far during the year 2000, particularly since the month of April. This is as a result of the effects of both higher sunspot activity at this stage of the sunspot cycle and a very good summertime Sporadic-E season. There have been a number of days where Aurora, F2, TEP and intense Sporadic-E activity has been observed on the band. It's times like these that make it necessary to keep a very good logbook with notes of the many different stations from around the continent and the world that are being worked.

For this article, I am giving a report on some of the activity that I have observed first hand. I have received similar bits of information from many other Hams such as Tom, K4SUS; Fuz, W4IO; Howard, WB4WXE; Dave, K2SIX; Bob, K1SIX; Frank, AA2DR; Jay K2OVS; W5UWB and Glen VP9ID. They have worked the same stations as I have, sometimes on the same day and sometimes not.

The first three months of 2000 was relatively tame here on 6 Meters as observed from my home QTH of Long Island in Grid FN30. In January, there was some Sporadic-E and aurora activity observed, particularly around the time of the ARRL VHF Contest. No F2 activity was observed here. February and March was relatively quiet with some very short spurts of activity.

However, things really started cooking during the month of April! On the afternoon of 06 April, I was driving home from work when I started hearing some evidence of distorted signals while driving. It was definitely aurora! I was able to work W1TE in Massachusetts on CW while mobile and running about 50 watts to a mag mount vertical on my car. By the time I got home, the opening really started to take off. I was running 150 watts to a dipole and was working many of the close-in grid squares by means of aurora backscatter. I worked about 30 stations, mostly on CW, covering about 20 grids from Maine, NY, NJ, NH, Ohio, Indiana and Ontario, Canada. But this was not all!

After about three hours of intense aurora activity, F2 activity developed. The F layer area over the equator tends to be ionized by the same type of solar precipitation that caused the aurora. I started hearing stations from Columbia and Panama at 8:00 P.M. There were massive pileups on these stations. Apparently the skip was open to southern U.S. stations before it opened up into my area. I was not about to crack these pileups at that time so I went to bed around 10 p.m.

At 12:30 a.m. I decided to see if the aurora returned. Imagine my surprise when I still heard Columbia and Panama stations. I heard HP3XUG calling CQ on CW on 50.125 and I called him using 10 watts (I use lower power at night because higher power gets into the speaker of the answering machine). I was floored when he came back to my signal with a 559 report. Then I heard HK3YH on 50.103 on CW running a pileup. It took a while but I finally got him on the about the fifteenth try as he was still working many stations. In addition to this aurora/F2 opening, I observed four days of Sporadic-E activity.

Sporadic-E was starting to come in during the month of May. What made this more interesting was the fact that there were some days of high geomagnetic activity. So in addition to aurora events such as the one that occurred on 24 May, there were subsequent TEP events caused by the same type of solar precipitation. With the presence of both TEP and a Sporadic-E link, it was occasionally possible for stations in the Northeast to work into the lower parts of Argentina. For example, I was able to work LU5VV on 6 Meters at 6 P.M. local time via a TEP/Es combination, the day after aurora was observed!

During the month of June and July, on many of the days where Sporadic-E was observed, there were a number of double hop incidents. There were two double hop openings going from the east coast to the west coast as well as transatlantic events. On 23 June, the day before Field Day, I was able to make contacts into Europe from my work QTH running 75 watts into my mag mount vertical on the car. I was able to work CT1DYX and EH7GTF during the early morning as well as hearing other stations from Spain. When Field Day took place the next day, Sporadic-E activity was moderate throughout the first 22 1/2 hours of the contest. Then during the last hour and a half, west coast stations from Nevada, Utah and California were booming into our Field Day station W2AMC, located in Eastern Long Island.

A number of stations located in the higher part of New England such as Bob, K1SIX, have been seeing several openings, mostly weak signals, into Europe during this time period. Sometimes the opening into Europe extends below the

New England stations. An exceptional day was 05 July. There were tremendous Sporadic-E 6-meter band openings into Eastern Canada. The Sporadic-E formation was so intense, I was hearing backscatter signals off of the formation into Virginia and Pennsylvania from my location. With the strong opening into Canada, a transatlantic opening into Europe seemed likely and it did happen! I worked CT1DYX on SSB at about 11:15 a.m. and later in the day, I worked F6JKK on CW at about 5 p.m. local time. What an interesting day!

In addition to the opening on 05 July, Europe came in the afternoon of 10 July. While the signals were not particularly loud (typically 559), many Europeans were worked by stations in the Eastern U.S. I was fortunate to work GM4DGT, G4CBW, OK1DDO, G3SED, G3FPQ and MMØAMW. Stations such as WB4WXE from Alabama were also seeing similar action during the same time with several G stations worked and other stations such as DL5RBW, ON4KST and PA7MM also being worked. There are many more European stations on 6 Meters since the last cycle so any transatlantic opening that should occur will usually have many stations available! Bob, K1SIX, stated on one of the internet sites that this has been one of the best summers for double Sporadic-E openings into Europe from the Northeast U.S. The path over Canada is a major part of this two hop path and besides Europe, many Canadians were worked by stations in the U.S.

A number of narrow openings into Canada were observed here during July. Ralph, VYØRR, operating from Grass Island in Grid FOØ3 was the only station heard for several hours during the night of 08 July. Another opening of interest towards Canada was a narrow opening from here into Newfoundland on 20 July. The opening seemed to be to only one grid in Newfoundland — GN38 where I was able to work VO1PJN and VO1GO, along with hearing VO1BC. I was told by VO1GO that all three stations from this grid are relatively new to 6 Meters — two years or less on the band. It's good to see 6 Meters becoming popular with stations popping up in less-populated areas.

Speaking about rare places, Glen, VP9ID, has been generating some very good pileups from Bermuda in his first full year on the 6-meter band. Glen had gotten a taste of 6 Meters with an MFJ 9406 I had loaned him at the end of last summer and has upgraded his station with a new ICOM 706. Glen's entry into 6 Meters is important as it has been about four or five years since there has been a resident Bermuda amateur that has been regularly active on 6M. He generated some major pileups just before Field Day started and during the July *CQ* VHF contest. Glen has been quickly finding out how much Bermuda is needed to many U.S. amateurs on the 6-meter band compared to the HF bands!

With the current sunspot reaching its peak, solar flares and similar events have been occurring more often in recent months that have resulted in high geomagnetic activity that eventually results in aurora activity. In addition to the 06 April event cited earlier, aurora activity was noted at this location on 09 and 23 July. Things should get pretty interesting this Fall with both high sunspot counts and increased geomagnetic activity. The daily sunspot number reached 401 on 20 July!

This report is a summary of activity that I have been able to observe on 6 Meters in recent months with inputs from a number of others. Most of the activity, in particular the European openings, have been the result of an exceptional summertime Sporadic-E season with occasional aurora activity occurring after a major solar eruption. At the time of this writing during the last week of July, it is expected that a few more double hop Sporadic-E openings will occur for those who monitor the Magic Band on a regular basis.

During this coming fall and winter season, one can keep a finger on the pulse of day to day 6M activity by monitoring 28.885 on a daily basis as well as several sites on the internet. One good one that I found is at: http://dxworld.com/magicband.html. The site has a lot of input from North American stations and some DX stations. A good site that has more European input is at: http://www.uksmg.org/notice.htm. I want to thank the many Hams mentioned in this report who have sent me their observations.

David Splitt, KE3VV

How Hams can deal with CC&R's — part II

The laws of physics are wonderful things, and most of the rules of mechanics and optics and electromagnetism that we learned in high school or the Army or college work just fine — at least until you get way down inside the nitty gritty crawl spaces of the universe. Plunge inside the atomic structure of matter or wander too close to the edge of a black hole and all bets are off. As Red Buttons used to sing on the black & white TV, "Strange things are happening," when you explore the physical world inside the real 'short wave' Planck length where the smallest building blocks of the universe are strung together in a universe within a universe where you get gravity gravy on your quantum fries.

Inside the atomic nucleus, the "rules and regs" of physics are replaced by sometimes abstract theories, each one seemingly more exotic than its predecessor. So it is within the boundaries of this column. Sometimes the comfy concrete certainties of laws and rules must give way to theories, ideas, and opinions. It is the nature of the beast.

One of my old-time favorite theories of physics is the Heisenberg "uncertainty principle," named after the chap named Werner who thought it up. Stephen Hawking, who wrote *A Brief History of Time* and knows more about black holes than anyone really should, says that the uncertainty principle basically postulates that you can't accurately measure certain pairs of quantities simultaneously. For example both the position and momentum of an electron wandering through the ether cannot be known at the same instant. This is why the classical theory about electrons (that they give out energy in the form of electromagnetic waves until they run out of energy, leading to the collapse of the atom) is wrong in the world of quantum physics. Atoms don't collapse because electrons never quite give up all of their energy.

Whoa, Nelly!! Where does the ***Worldradio*** Rules & Regs column turn into a dissertation on quantum physics? Even articles on the intricacies of radio wave propagation and the geomagnetic field don't go that far! Quo Vadis? Wha Sup? Where are we going with all this?

I had originally thought that a discussion of CC&R's and the ARRL petition for reconsideration of the FCC's denial of expansion of PRB-1's state and local law preemption to CC&R's would be booted in the right direction (theoretically, anyway) by a discussion of black holes. Something esoteric about the energy of the ARRL and the Amateur Radio community being sucked beyond the event horizon of the black hole of FCC deliberation. Easy to write, but impossible to read. Terminally impractical. So no obscure metaphors comparing the FCC rulemaking process to a black hole (or the speed of light for that 'matter') — at least not this month.

Sometimes when writing (or reading) a column like this, it really is impossible to differentiate between brain-drain filler and some kind of Dennis Miller homage. Frankly, I don't try to put labels on my own writing, but I do think it is better to be labeled "obscure" than "boring." And that is why this (my?) Rules & Regs column tries to do more than just fill up space with re-writes of ARRL and FCC news releases and the occasional stale explanation on something you read about on the ARRL web site a month or two earlier. Last month, the discussion was about practical

Amateur Radio Call Signs

The following shows the last call sign in each group to be assigned for each VE Region under the sequential call system as of 20 August 2000.

For more information about the sequential call sign system, see Fact Sheet PR5000 #206-S dated August 1996 or contact the Federal Communications Commission, Consumer Assistance Branch, 1270 Fairfield Road, Gettysburg, PA 17325-7245, toll free 888/225-5322

District	Group C Technician	Group B General	Group A Am Extra
Ø	KCØIRI	++	ABØOP
1	KB1FOR	++	AA1WV
2	KC2GVR	++	AB2KG
3	KB3FKJ	++	AA3VP
4	KG4JDI	++	AG4BM
5	KD5LKR	++	AC5ZZ
6	KG6CXN	++	AD6SD
7	KD7KFL	++	AE7TA
8	KC8PGL	++	AB8IR
9	KB9WWW	++	AB9AA
N. Marianas	KHØKF	++	++
Guam	KH2UZ	++	++
Hawaii	WH6DGE	++	++
American Samoa	WH8ABD	KH8DO	AH8T
Alaska	WL7CVE	KLØYH	++
Virgin Island	WP2AIM	NP2LE	++
Puerto Rico	WP3HT	++	WP3H

++ All calls in this group have been assigned

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If you received this copy of ***Worldradio*** and you're not a regular subscriber, this was your free sample copy. We sent it to you so you could see all the news, features and columns in ***Worldradio*** .

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ways to get the word out about Amateur Radio and how much good it does in the community. Not just how much good it could do or might do if this or that happens, but real concrete public service in the real world. I suggested the ARRL reprogram some of our dollars (our dues and the profits made from selling us everything from DXCC booklets to lapel pins) into a video/movie called "Amateur Radio: In Touch With America." (Hey, if that sounds too much like a political campaign title for you, pick your own name).

The multi-faceted theory behind the video/movie is to fire up interest among potential Hams and provide a slick vehicle for selling Amateur Radio to the community and politicians and, when push comes to shove, the condo boards and homeowners associations who have a CC&R strangle hold on the right to erect an antenna in a deed-restricted venue.

I have been asking for more input from readers about your experiences in the CC&R ruled world, and responses are beginning to trickle in. An envelope stuffed with the details of one Ham's struggle with CC&R's was sent to me by Rick Conners, WA7ND. Thanks, Rick!! Your odyssey with the Sunriver Owners Association (of Sunriver, Oregon) is typical of the experiences of many Hams, and provides a good setting for some "Do's," some "Don'ts" and some thoughts for getting on the air with a serviceable antenna when the "rules and regs" don't allow it. But first, here is Rick's story, mostly in his own words (with some of my comments and observations interspersed):

WA7ND: "I have been a licensed Radio Amateur for 22 years and moved to Sunriver with my wife and family about three years ago. At that time, I was not active in Amateur Radio. Being anxious to move to a nice area, I willingly signed the restrictive CC&R's associated with home ownership in the Sunriver Development.

KE3VV comment: Many active Hams are faced with this kind of choice and find that they have no practical alternatives. This is especially true of older Hams who are trying to move into a more secure "gated" community or a lower maintenance housing area, such as a retirement community. It does not matter whether you sign willingly or under the pressure of circumstances, the CC&R's are still binding. This is one area where a successful petition for FCC action will require the persuasive power of many, many examples of Hams who face giving up or curtailing an activity that should be a source of joy and self-worth way into their senior years just because they can no longer live in the single family, unrestricted home where antenna restrictions are preempted by PRB-1.

WA7ND continues... "About a year ago, my interest in hamming was re-kindled, and I purchased new equipment and erected a G5RV dipole which was strung from a pine tree on my property (55 feet). One end of the dipole terminated in a tree which is claimed to be located on common area property. I then (took a chance) and erected a ZX Mini Yagi (6 foot boom with 3 elements) on a telescoping flagpole on my second floor deck. Total height when fully extended is approximately 33 feet.

"Someone complained about the Yagi (not the G5RV) and [the homeowners association] sent me a notice that I needed to apply to the Sunriver Design Committee for approval of the flagpole and antenna. Subsequent to an inspection and much to my surprise, the approval was granted on 30 August 99. The only requirement imposed was that I paint the flagpole and antenna gray to match our house, which I did."

KE3VV comment: Looks like the perfect ending to the story.... but no such luck. Have you caught on to Rick's unfortunate and potentially 'fatal' mistake? Read on....

"During a routine drive-by two weeks ago, one of the Homeowners Association inspectors noticed a wire running over the top of my roof. He stated that nothing was allowed to be hung from or in any tree in the development and that I would have to apply for another approval, this time for the G5RV.

"I filed the request for approval, but this time, approval was denied. The Committee also stipulated that all wires and cables must be removed, not only from the trees but from the support structures of my upper deck. If I were to comply with this directive, I would have neither coax nor rotor control cable to the Yagi antenna."

Rick's narrative continues with his decision to remove the G5RV and apply for permission to erect a ground-mounted vertical on a tilt-over base that would allow the antenna to be lowered when not in use. That application was denied. It became clear that the current members of the Design Committee were dead set against any more Ham antennas, and that no amount of reasoning was going to sway them. After that, it seems that folks began to take sides. Reading between the lines, it might also be fair to say that both sides began to dig in their heels. Rick got some of his neighbors to write letters of support for his antenna and even hired a local lawyer to assist with his appeals to the Design Review Committee Appeals Board and the Homeowners Board of Directors. The final results are unknown at this time, but I appreciate Rick taking the time to share his story with us.

The potentially 'fatal flaw' in Rick's approach to dealing with the CC&R's and the Sunriver homeowners association? Trying to get away with a hidden or unnoticeable antenna without filing an application for approval as required by the CC&R's. This may sound like a good strategy, and in Rick's case the relaxed approach to enforcement at the time he moved in surely made it a tempting alternative to getting involved in an approval process. However, the persons (and personalities) who get elected or selected to homeowner boards and design committees change. This means an antenna that has been tolerated or ignored for months or even years earns no "squatter's rights" and is just as much a violation as the day it was erected. At the same time, as Rick and his foes on the Design Committee learned, once

permission is given (for his Yagi) it cannot be summarily withdrawn.

Lesson number one is a tough one. If there is an opportunity for you to obtain permission for an antenna (or some form of an exception to the restriction), you should follow that route. Of course, there is no guarantee that you will obtain the permission or exception you seek, but on the other hand, if you get caught "defying" the CC&R's with an "unlawful" antenna, your chances of getting it approved after the fact are like getting light energy out of a black hole.

Getting an exception approved can be a challenging process, and it is absolutely essential that you do your homework. Here is a list of ideas and suggestions that may help you put together a good case:

1. Read the CC&R's carefully and without "wishful thinking." You must realistically assess what you are up against. Put yourself in the place of someone who opposes your antenna request and is reading the same rules. What do they think it says? What are the strengths and weaknesses of each interpretation? Some CC&R's (like the Sunriver rules) actually allow antennas but require application for permission and approval of items like location, concealment, color matching, and screening. Be very careful about rules restricting the kinds of things that can be attached to trees.

2. Know the opposition (or potential opposition), the influence peddlers, and the decision makers. Long before you reveal your need for an exception to anyone, find out the "who's who" of your community. If you are a new resident, plan on getting to know a lot more people than just the couple next door. Don't make ham radio the first topic of conversation. The "Hi! My name is Bill and I want to put up a Yagi," is not the "A" approach. Find out about their hobbies, interests, opinions, and ideas about the community. This is a time to really listen and get the lay of the land.

3. When you are ready to move toward the application process, look around and see if you can spot any other uses or structures (or antennas!) that appear to violate the rules. Find out what experiences your neighbors may have had with the approval process. Look at the written records of the "approval" committee to see what kinds of applications have been filed, approved, and denied. Talk to successful applicants and see if they have any "tips" on success in the approval process.

4. Plan your antenna carefully. Check out alternatives for both equipment and location. Be prepared with a "fall back" or compromise plan. Remember that you may only get one dip in the well, so patch up any leaks in your water bucket. Be prepared to respond to the technical questions about RFI and electromagnetic radiation. Just telling someone you are in compliance with the FCC emission standards may not be enough to convince someone who just watched a "sweeps week" TV news report on people frying their brains with cell phones. ("Your radio transmits 100 watts? I might as well wear bacon for earmuffs!")

5. Enlist the support of your neighbors. Rick Conners had some great letters of support from his neighbors, including everything from "we have no objection" (better than nothing) to one writer who supported a policy of approving ALL Ham antennas to improve emergency services. This is also where your "who's who" intelligence gathering can pay off. If you can enlist the assistance of supporters who know members of the condo board or design committee, they can act like lobbyists for your cause. Just make sure that you have given them a thorough briefing on the facts.

6. Check your attitude. Many Hams who fail to get CC&R exceptions have torpedoed their case by acting as if the community "owed" them permission to erect an antenna based on reasons like "I am a WWII veteran" or "I have a license from the Federal government." Like it or not, the design committee people are doing you a favor, so a little deference goes a lot farther than a belligerent or combative attitude.

I am sure that many of you have more ideas about getting around the CC&R's that restrict your Amateur Radio operations. Send them in and we will do a CC&R's Part III. One other thing you could do that might really impress that design committee or homeowner board — show them a really slick, professionally produced video/movie about the public service value of Amateur Radio.

Power line interference

Vernon Lee Gibbs, W4JTL

Power-line noise is easily distinguished because it is a buzzing, humming, roaring sound in your radio. It is noise that radiates from the power lines when you are unfortunate enough to live within five or six hundred feet of a high-tension power line. Especially a feeder line.

I'm going to give you some ideas as to the causes of power-line noise and how you should go about locating the source, and then what you can do to eliminate it.

I am making the assumption that you have completely eliminated the possibility that the power-line noise is coming from your home. If you haven't, then you should take the necessary steps to eliminate the problem at home.

The best way to do this is get a good battery operated portable, tune in the offending noise, then turn the main power switch off in your home. If the noise is still there, then it's time to start hunting. If the noise disappears, then start checking your house, one circuit breaker line at a time until you find it.

I have found the best method to track down the noise is to get a small portable scanner that covers 440 Mhz AM and a four or five element 440 Mhz Yagi. This combination cannot be beat. When you can find the noise on the portable scanner at some frequency above 100 MHz, you can usually be sure that the power-line interference is usually within a span of no more than six or eight power-poles from your antenna.

Power-line noise is identified as either corona or spark gap type. The corona discharge is that halo around the big insulators most prevalent early on a foggy morning. Generally the higher the voltage on the lines the stronger a corona discharge will be. This is rare and there is little than can be done to prevent it. If you see only one or two halos, they may be caused by sharp projections on a piece of metal. Call your power company.

The second type of power-line noise is the spark-gap type. It is the culprit that usually causes most of our problems. The good news is; your local power company can eliminate it. But first it has to be located. There are several spark-gap problems that you may encounter. The most common is the constant buzzing, frying, humming, or roaring sound that is usually heard during the day. You will almost always find that it comes from a specific direction. This type of noise will sometimes become intermittent at night because humidity is usually higher after sundown. And it will almost always completely disappear during and right after a rain. This noise is usually the result of cracked or burned insulators, loose aluminum clamp that holds the jumper wires to the power lines, or it is hardware becoming loose on the pole. This type of noise is usually louder during dry weather and during the summer months.

One of the most difficult to locate and correct is caused by ground loops, where the noise is on the ground lead at the pole. This is usually caused by improper placement and connection to the ground lead at the top of the pole. This can be the loudest noisemaker of all.

A leaky transformer sometimes causes noise that is more apparent during heavy-load evening hours. But more often the fuse used to isolate individual lines located near the top of the pole is the culprit. This noise is usually caused by a cracked insulator or by accumulation of dirt on the insulator. Sometimes you will find corroded switch connections. This type of noise is sometimes louder during a heavy rain. This may come to you as a surprise; pole transformers rarely generate power-line noise. Noise from a transformer-bearing pole usually comes from sparking between pieces of the hardware used to mount the transformer to the pole.

Power-line noise comes from sparks that jump gaps in the hardware used to mount cross arms, transformers, and other hardware to power-pole tops. Even though the hardware is sufficiently tightened at installation time, this hardware will become loose as the wood expands and contracts with temperature and humidity changes. Keep in mind that loose clamps and connections, oxidized tie wires, and dead end insulators cause the majority of power-line interference.

Corrosion can build up on power-pole hardware and cause sparking. This is almost always present as the power-pole and hardware ages. Power-line insulators may break down under the aging influences of the sun, precipitation, dust and pollution, especially if in the area where acid rain is prevalent. As a result, a carbon track will form across the insulator, and the result will be power line leakage that will generate intense spark-gap noise.

The greatest majority of power-line

interference is gap-type discharge. Metal parts become isolated by corrosion, forming a spark gap, and as soon as moisture appears this gap is shorted out and the noise eliminated. Gap discharge occurs on insulators, tie wires used to make ground connections, and in the fabrication of the jumper wire clamps that connects the jumper wires to lines. When one of these clamps becomes loose you have gap-type discharge and noise. You may find gap-type discharge between lightning arrestors and neutral or ground wires and their associated hardware. The spark radiates noise over a broad frequency spectrum.

Most power-line spark-gap noise is caused when sparks jump from one piece of metal to another or from a piece of metal to the ground line on a pole. Most of these hardware pieces are the ones used to mount cross-arms, insulators, transformers, and other items to the power-pole. Almost all power-line noise is at a frequency of 120 cycles.

Now how to get it fixed: After you have eliminated the possibility that the noise is in your house, you need to take your scanner and directional antenna and start your search. Your first step would be to determine the direction your interference is coming from. Once you have located the source of the noise, call your power company. Give them your name, address and phone number. Then explain that you have an electrical noise and you have determined that it is originating on pole number xxx, in or near your subdivision. If the poles are not numbered, give them a description of where it is located and tell them you will meet the power company representative and guide him.

The first telephone call to the power company may or may not get results. If it doesn't try again. Explain your problem very thoroughly and by all means be polite. Explain your situation; again describe the noise producing area and the method you used to find the noise. Again, leave your name, address, and telephone number so the power company representative can contact you before making a visit to your home and the trouble area.

When the representative from the power company makes his visit, be patient and understanding. But, here is where it pays to be persistent. If, despite your best efforts the power company fails to respond in a timely fashion, file a complaint with the FCC, Field Operations Bureau, Washington, DC 20554. Let the FCC know how the noise is affecting your operation. Send a copy of the letter to the power company and to the state agency that oversees utility companies. Also send a copy of the letter to the ARRL RFI Task Group,

Summary:

1. 95% of power-line source interference is gap-type discharge. Metal parts become electrically isolated by corrosion. During and after a good rain, this gap is shorted out and noise eliminated.

2. This type of noise occurs on insulators, tie wires, Lightning arrestors, and between neutral or ground wires and hardware.

3. Noise can travel through the power-lines or the neutral wire into your receiver power supply.

4. Noise can be caused by induction when the power-line is close to the receiving antenna.

5. Noise can be caused by radiation when energy is radiated from a distant power-line and re-radiated from a nearby fence, power-line, or other metallic object.

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UK's first 10-meter repeater

The Radio Society of Great Britain's Repeater Management Committee says the nations first 10-meter repeater has been approved. The system uses the call GB3CJ and is located in Nottingham. The input and output frequencies are 29.540 and 29.640 MHz respectively. — *RSGB, Newsline*

A weekend in Macau

Ed Sawyer, K8EP/XX9TEP

I have had the good fortune on numerous occasions to combine business travel in Asia with a DXpedition. It takes a lot of advance planning for logistics and schedule, as well as some luck, to pull it all off, but when it comes together it is indeed a pleasure. This time my travels took me to the wonderful country of Singapore. It can be difficult to show up and operate in many countries and I had heard that the required waiting period for inspection in Singapore might make operation there difficult. Additionally, I did not want to bring my IC706, if I didn't have to, and was not aware of a station to operate.

Instead, I decided to look for a place to spend the weekend on the way home. There are a few good options to consider including 9M6AAC, Alfonzs' place, which is always a great place to holiday, and I must say I considered 4W6 (East Timor). But when I looked at the short time I would have to operate, I had to rule out many places. I decided to return instead to Macau by stopping in Hong Kong on my return.

My business trip was on fairly short notice so I only had three weeks to prepare. My first contact was to my friend Pertti Simovaara, OH2PM, who, along with Martti Laine, OH2BH, maintains a station at Hotel Royal, Macau. I have operated there twice before and knew if everything went just right, I might be able to sneak in a day and a half of DXing. Pertti and I discussed the situation and it seemed all would work out, so arrangements were made.

My trip to Singapore was uneventful arriving on time and jamming in 3 1/2 days of meetings. I was to leave on a 7:30 p.m. flight to Hong Kong on Thursday, arriving later that night. It seemed things were going to be starting out with difficulty when, on arrival at the Singapore airport, I discovered that my flight had been canceled. My luck quickly turned when the Cathay Pacific staff, who needed some prodding, booked me on a slightly earlier flight on Singapore Airlines. So far so good.

It would be impossible to get to Macau before the wee hours of the morning so I planned to stay over in Hong Kong and catch a very early ferry to Macau on Friday morning. This is usually a safe and efficient process and this time was no exception. The jetfoil travels at high speed and makes the trip in one hour. The last time I was on that ferry I was racing out of Macau (cutting my DXing time in half) on the second to last ferry before a typhoon hit. It would be two days before things got back to normal on that trip. Believe me when I tell you, you can count on those ferries.

I had pre-arranged for the "special room" that becomes the radio shack at the Hotel Royal. My plan was to set things up in the early morning and then renew my license. As Murphy would have it, the hotel was completely booked the night before and guests would not be leaving the room I needed until 11 a.m. I would go to plan B; ready the antennas and renew the license first.

The station at the hotel consists of a C3 mounted about 25 feet above the roof on a permanently attached tower. The base is 17 stories up and it is one of the highest points on mainland Macau. There is also a 2-element 40M beam at 35 feet, but this had been taken down and stored for the upcoming typhoon season. Complimenting the station are inverted vees for 30, 80, and 160M. The vees need to be strung and taken down for each visit. I elected to raise the 30M vee giving me 10-30M coverage for the trip.

Getting ready is fairly straightforward. First you have to make your way to the roof, which involves climbing a 20-foot ladder. Next you untie the ropes that keep the boom from freewheeling. Set up the vees, toss the cable down to the pre-described spot and you are

ready to roll.

Then I was off to the CTT to renew my license. The CTT operation is basically unchanged since the handover to China. It is on the second floor of the central post office building. The operator license is a snap. Pictures, paperwork, copies of radio license from home, and $110 (U.S.) does the trick. The station license is another story. Macau has an inspection requirement and they have up to two days to do it. There is no way around it. If they want the two days, you're done for the weekend. Because of prior relationships with myself and, most notably Pertti, I have been able to expedite the inspection considerably (in this case, noon) but such uncertainties are the nature of DXpeditioning. By 11 a.m., I had my requested call sign back, XX9TEP. Now it was back to the hotel to claim my room, unpack the stored equipment at the hotel and wait for inspection.

I was just hitting the power on switch at 12:30 when the inspector arrived. A quick once over, power-up to check output level and TVI and he was happy. The first QSO went into the log at 12:40 p.m. which was, as usual, a JA. Macau is like the Caribbean to JA's. 10M is open non-stop and the short hop on all bands makes JA's very loud almost all the time.

I was very respectful of all the JA stations who stood by during NA and EU openings. They are true gentlemen and are understanding of the motivation. We should all take note of this operating discipline. I rewarded them by stopping to work 10 to 20 periodically to not push the courtesy. At other times, it was CQ JA. The resulting pileups from JA on 10M SSB and 30M CW were breathtaking and exciting. In fact, all of the pileups from XX9 are really amazing and each band/mode a little different. 10M, 12M, and 15M are run bands (the faster the better) but not open long to EU and NA. 17M, 20M, 30M, and 40M can be open longer but can have significant challenges from arctic flutter, QRN/QRM, etc. You really have to want to pick some of those signals out of the noise.

A few observations from the "other side" might be of use to the less experienced DXers in the crowd:

• On SSB, take full use of the spread of listening frequencies on split.

Many times I would not be able to pull a signal out of numerous loud stations hovering at 21,300 while a considerably weaker signal was worked on 21,304 (listening 300 to 305 and saying so, frequently).

Many NA and EU stations benefited, and deservingly so.

• If a DX station doesn't come right back to someone (and it is split), keep calling. The tuning around can take a few seconds but many will only call once or twice. The three and four times guys get it more than you would think.

• On CW, try and always be near the worked station but 200-400 hz off.

The change in tone makes it easy to copy. I've worked 10 or more without moving the dial because many knew the technique. Other times, I was tuning after every QSO because everyone was zero beat.

All too soon it was midnight Saturday and time to close up shop only 36 hours after starting. I had to leave the hotel by 5 a.m. to catch a 9 a.m. flight out of Hong Kong on Sunday. Doing all of the previously described antenna and cable things, in reverse, at 1 a.m. with a flashlight is what DXpeditioning is all about, I think.

Some final statistics on my recent XX9 operation are: 2,338 Qs, 23% SSB, 77% CW. This adds to my combined XX9 total over the past 18 months now standing at: 7,460 Qs, 18% SSB, 83% CW. All QSLs are via K8EP direct or through the buro. Make sure that your buro card says "via K8EP" or you may never get a reply. The Macau buro is under no obligation to forward the card to me, although they have done so as a courtesy.

I would like to thank the gracious staff at the Hotel Royal Macau for their continued support and Pertti, OH2PM, for his kind invitations to operate and help with the station. Finally, I want to thank my wife for putting up with this unique hobby we call Ham radio and DXing. I think she has another word for it but I can't recall what it is right now!

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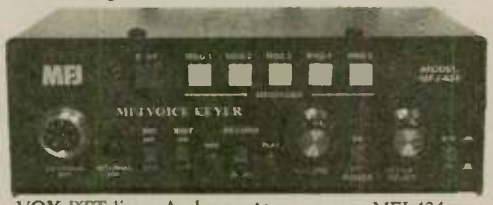

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Ham holiday in Seychelles

Kurt Bindschedler, HB9MX

Recently I returned from my twelfth stay on the island. Altogether, I have spent over a year in S79 land.

The Seychelles consist of over 100 islands scattered over an area bigger than Germany. Most of the spots are coral atoll and the inner islands are granite. A mountain range, up to 2,700 feet prevents work in all compass directions, with operating from a hilltop location as the only solution. Most of the Ham radio acitivities are from foreign visitors to Mahe, the main island with the capital Victoria. The colloquial language is creole, but most people understand English and/or French. Four foreign Hams work for the government and an American amateur is married to a creole woman and running a fast food restaurant. Their activity is, at present time, very limited.

Since the U.S. Air Force tracking station on the hill closed, more foreign Hams come to the island for holiday.

Few of them go to the exotic Desroches atoll. An Italian amateur made it to Astove atoll, almost 1,100 km from Mahe. Most amateurs come with the aim to work as many stations as possible.

Those that do miss the beauty of the Seychelles, Praslin, with its nature reserve. Most visiting amateurs come from Europe, Japan and a few from the U.S. Seychelles isn't a most wanted country for the avid DXer. The fun is to be on the air under comfortable conditions.

There is only one "blemish" — it's not exactly cheap. For your short term license, valid for three months, you pay $100. Airport tax is another $40. All of these fees must be paid using U.S. currency.

Foodstuffs and consumer goods are imported and charged with duty. Luxury hotels do not allow Amateur Radio operators to set up an antenna or operate Ham radio, due to a bad experience. Therefore, small guesthouse or residences with bungalows (bed and breakfast) are in favor.

Customs officials make spot checks. With a transceiver in your luggage you had better declare it and present the license. In the license application form you must mention the location where you are going to stay. Make sure that the residence owner or manager has accepted your intentions. Sometimes officers of the department for information and communication will make a surprise visit to your Ham station.

You are authorized to operate on all Ham bands, including 50 MHz, with the exception of 80/75 Meters, and maximum output power is limited to 400 watts.

Air temperature varies between 23 and 30 degrees Celsius depending on the time of the year. December to April can have rain, heavy winds and lightning. There are two monsoon seasons with drastic changes in the climate.

There is only one lodge, with a minimum three-day stay on Desroches Atoll (Amirante group). They have no single bed chalets double occupancy only.

Visits on other outlying islands like Farquhar, Cosmoledo or Aldabra (wild-life preserve) are only possible in groups of eight or more, for resonable price. The line voltage is 240V, but it's a

This QSL card, with four photographs and the official seal of Seychelles Island, was sent to all those seeking confirmation from this rare location.

little more during the night. Some gear with a built-in power supply will run hot after couple of hours of operating. Special care must given to the ground system — plastic water pipes aren't usable. The time difference to UTC is four hours.

Contacts are possible day and night on some band or other during high sun spot cycle. Best time to operate is after local sunset until sunrise.

6M from Seychelles

Although the Seychelles are located in IARU Region 1, the authorities do not allow any activity on 80/75-meter band. The 6-meter band was added to amateur band plan in April 1999 as a result of my written recommendation.

I began my 6M activities with a 5-elment Tonna beam sitting on a four meter fibreglass mast pointed in a fixed Northwest direction. Since I had no information on optimal long distance contacts, I started calling CQ in CW mode at intervals on 50.110 during daylight. The 50 MHz band was clean and quiet.

About an hour after sunset, weak signals were heard on some frequencies. After returning from dinner at 1737 UTC (21:37 local time), JY9NX answered my first call, followed by two stations from Sicily. I sat, full of expectation, until midnight. No other stations were heard.

The following night, around the same time, I worked 9J2 and 9U5. The third night brought 30 contacts — stations in or around the Mediterranean area. Slowly, I became more confident about this first attempt on the recently legalized 6M band.

Heavy wind, tropical rains and very close lightning strikes hindered operation during the next three days, so I raised the antenna to 12 meters and made it rotatable. When the weather cleared, I contacted YV1DIG using CW — a distance of 13,545 km! No other stations were heard that night.

Four days later I worked J37LD in Grenada at 1909 UTC — a distance of 13,100 km. I worked him again for several days following the intial contact.

Another evening I set my beam towards the east for the first time. I was answerd by VR2LC and other stations from Hong Kong, follow by a bunch of JAs from Okinawa. I was asked to shift to SSB and some signals came up to S8. During this time no near East stations came through. I often heard the same stations, but was glad to catch 9M6,9M2,BV,YC,S21 etc, A good success, if one bears in mind my poor location in this direction.

The Far East signals started fading out, and while turning the antenna, the Italian "gang" showed up on the band. Between Italian contacts, I made contacts with several stations — EA8,EA9,CT3,CU.

It wasn't a problem working stations in Africa using 6 Meters with one exception. It was difficult to work the well-known ZS6BTE due to a high mountain range in his direction. I was called by a French and later by a Belgium station in CW, but just once. I was unable to contact any in G/DL/HB/OE stations — but I'll be trying again!

During my brief 21 days of activity, I made 309 QSO's with 72 of them being contacts on both CW and phone. I now have 45 DXCC countries in the log. Most contacts were with amateurs in Italy, follow by JAs and VR2 stations.

Ham radio — A personal journey

(Or how restructuring got me back into the hobby!)

Harry Gross, KC2FYJ
(formerly WN2BXG)

The year was 1963. I was a Cub Scout, working on arrowheads for advancement through the ranks. One of the available projects was to build a crystal radio. The radio was to be built primarily out of miscellaneous items from around the house. One of the components was a hand wound coil, wound around an empty oatmeal canister. I successfully built the radio, and was fascinated by the ability to extract music and talk from a chunk of rock! This was my introduction to the magic of radio.

As a more advanced follow-on project, I built a one-tube receiver. The components were laid out in the open, on a piece of plywood. Once again, when it worked, I was thrilled.

I began reading about radio and electronics, and building various electronic projects. It was a lot of fun, and an excellent learning experience. Over the next several years, I always had my eye on getting a Ham license and being able to 'go on the air' for myself. Circumstances prevented me from completing this goal for a long time.

By 1969, a friend of mine, Richard Steinberg, got a Novice Class license (WN2CUM), which he soon upgraded to Technician Class (WA2CUM). I used to go over to his house regularly, so we could get on the air and talk to other Hams. In those days, FM wasn't nearly as popular on 2 Meters as it is today, and his equipment was strictly AM. As I recall, he had a Hallicrafters receiver, an AMECO converter for 2 Meters, and a transmitter that I don't remember a thing about. We had a lot of fun, and talked to a lot of other Hams in the Long Island and New York metropolitan area.

It was around that time that I bought a general coverage receiver, model A-2515, from Allied Radio (since taken over by RadioShack), and began a short career as an avid SWLer. I would send reception reports to the numerous stations that I heard, and received many QSL cards in response. Some from Hams, and some from overseas commercial and/or government short-wave stations.

Over the next two years, listening to my friend Richard on the air, as well as the SWLing I was doing further whetted my appetite for the Amateur Radio hobby. I knuckled down, learned the code, learned the Novice theory (this was the easy part), and with the help of a neighbor to administer the test (Frank Chiofarro, W2CNN), I succeeded in passing the Novice exam. In July of 1971, I was granted the call WN2BXG.

I built a two-band crystal controlled CW transmitter for 40 and 80 Meters, while following instructions in the 1969 *ARRL Handbook*. I also built a multi-band dipole, outlined in the 1968 *ARRL Antenna Book*.

Unfortunately, I never actually got the transmitter on the air. By the time I had completed it, it was time for me to go off to college, where I had neither the time, space, nor funds to pursue the hobby. Since the rules in 1971 made the Novice ticket non-renewable, and since I wasn't able to spend any time with the hobby, the ticket expired, unused. As a result, my participation in Amateur Radio died down to an armchair hobby.

Over the ensuing years, the bug never fully left me, and I would occasionally have fits of energy during which I would try to revive my code ability, or learn the new theory requirements. I never quite got over the hump, however, and remained on the sidelines.

Now fast forward to 31 December 1999. I had been a successful Computer Systems Manager for many years, and was on duty at my office for the Year 2000 rollover. The evening was progressing quite smoothly, and (fortunately) there was nothing at all to do. I decided to amuse myself by surfing the Web. For no particular reason, it occurred to me that the ARRL might have a web site, and it might be fun to take a look. Sure enough, there it was. And in great big bold type, was an announcement about RESTRUCTURING.

I read the article with great interest, and it became quite clear to me that it was now time to get back into the hobby. I decided on the following course of action: First, take the Novice theory test. Second, study some more, come back and take Element 3A, thus obtaining the No-Code Technician license. This would let me finally get on the air. Third, take Element 3B prior to the 15 April deadline. Fourth, at my leisure, get my code speed back to at least 5 wpm and upgrade to General once restructuring took effect.

I started out on this path by cramming like mad for a 23 January VE session being held as part of Ham Radio University 2000, here on Long Island. I covered the Element 2 question pool for a couple of weeks, until I felt completely confident that I would have no problems with the test, and then began studying the Element 3A questions. When it came time to attend the VE session, I knew I would pass the Novice test

with ease. Sure enough, I finished the test, and a few minutes later, was told "Congratulations! Would you like to try Element 3A?"

This caught me by surprise, since I had only planned to take Element 2, and I wasn't at all confident of my ability to pass the next step, yet. However, I decided "what the heck" and gave it a shot. Imagine my surprise when the examiner came over to me a short time later, and said "Congratulations, you are now a Technician licensee." I felt a thrill of excitement as I realized that I would finally be able to get on the air on my own.

Within a couple of days, I had purchased a very nice little 2-meter FM mobile/base station rig, as well as an antenna for it. I began listening to the repeater traffic in my area quite intently, learning the ropes by listening. A couple of weeks later, I spotted my name on the FCC database and charged onto the air.

My first contact was made that evening. I was as nervous as a long tailed cat in a room full of rocking chairs, but decided that everyone must have felt that way just prior to going on the air for themselves the first time, so I forged ahead. Within seconds of announcing myself on the local repeater, I had made a contact! Of course, on a repeater, this is to be expected, but despite the fact that it was a local repeater contact, it was still exhilarating! It also whetted my appetite for more. Right then and there, I decided that come hell or high water, I had to re-learn the code, so that I could get the General ticket and get on the low bands. Without realizing it, I had been bitten by the DX bug even though my first contact had been with a station only six miles away!

A few days later, I was looking on the web at Ham radio sites, when I saw a notice posted on eHam.net announcing a modification to the restructuring rules. Code credit was to be offered to anyone who had EVER held a Novice ticket! I was ecstatic. Now, I could concentrate on the theory for Element 3B and not worry about the code. I pored over the questions, and on 07 March, took the exam. Once again, I was able to fly through the exam, and I passed it easily. With a Certificate of Successful Completion of Examination (CSCE) for Element 3B in hand, I anxiously awaited the arrival of 15 April. In the interim, I also looked around for my old Novice ticket. Unable to find it, I contacted International Transcription Service at the FCC office in Gettysburg, and arranged for them to search out and verify my old call, which they did.

The fateful day arrived, and I went to a paper-only VE session. The line out the door was staggering. I waited almost three hours to get to the desk. When I got there, I handed in copies of all the required documents, and was greeted with the phrase, "Congratulations, you are now a General Class licensee." Hooray! My long time dream had finally been fulfilled. It took almost 30 years to get there, but I made it.

My next goal was to buy an HF rig, and get on the low bands. I purchased a second-hand ICOM-730 as my first HF rig. Remember that multi-band antenna I had built in 1971? Well, I still had it. It had been coiled up in my basement for all these years. I strung it up, connected it to the IC-730, and was on the air.

My first HF contact was with W9AA, a Chicago club station operating that day from a captured German U-boat (U-505) as part of the "Subs on the Air" special event. The thrill of making that contact was indescribable. If I hadn't had DX fever before, I certainly had it now.

My job responsibilities prevented me from operating as often as I would like, so my next opportunity to really get on the air wasn't for a couple of more weeks. However, on the weekend of 13/5/2000, I finally had an opportunity to make my first real DX contact. I spoke briefly with Ivan Packnik (S51CK), of Slovenia. That brief contact was enough to turn me into a DX fanatic. I have set a couple of goals for myself. The first is to qualify for the DXCC Millennium award. If I can manage between four and six countries each time I get on the air, it shouldn't be too hard to achieve.

The second goal came about as the result of a family gathering on Mother's Day. I showed my equipment to my niece and nephew, and they were really excited at the thought of being able to talk to people around the world. I decided right then that I want to help introduce this wonderful hobby to young children, and help open their eyes to the wonderful opportunities that it affords. It is educational, it expands scientific understanding, it promotes civic responsibility and preparedness, and it promotes worldwide good will. I don't know how I will accomplish this second goal yet, but I'm going to start by teaching my niece and nephew all about the fun this hobby represents.

If everyone can recapture the spark of excitement that they first felt when exposed to this hobby, perhaps we can generate an explosive resurgence among the ranks of Hams. It requires nothing more than the desire to share the hobby with friends and/or family members. If they can catch the excitement from you, it's a sure bet that they will want to pursue the hobby on their own. And if you can help them pass the first hurdle, they'll surely be hooked for life.

Krusty Kurt and the "J" antenna

Van Field, W2OQI

My perennial interest in the "J" Antenna prompts me to possibly amplify a bit on Kurt's fine article. My first 10-meter "J" was made of aluminum TV mast material. Try and find that material today. An eight foot piece on the bottom made the stub, the bottom had a wire to a ground rod. It mounted on a first story roof and against the 2nd story overhang. With a home brew super regenerative receiver and a one watt transmitter I managed to work a ZL on AM on 29,560 kHz.

Today, without that kind of aluminum tubing I use PVC pipe, with a large enough diameter so that it doesn't wave around too much. A Tee at the bottom can be used to bring in co-ax and continue a piece of PVC downward to plant the "flagpole" firmly in the flower garden. A plastic pulley at the top and some light nylon line for the flag completes the installation.

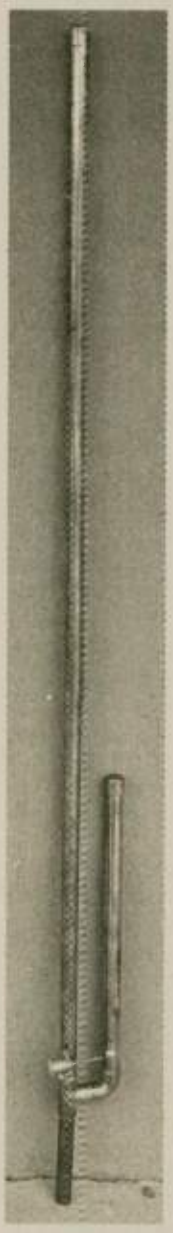
That's the easy part. Now the hard part! The dielectric PVC will load the antenna. Ladder line has a velocity factor to be taken into account.

And, of course, just where does the coax tap go?

When buying PVC pipe, be sure and buy some foam pipe covering (to keep it from sweating in the summer). Put your ladder line inside that and the PVC loading will diminish.

Next consider the fact that the velocity factor for ladder line is 0.97. Without the foam an additional .92 must be added for the PVC loading. The coax tap will be .0136 wavelength above the short (5.25 in.). Sometimes it is easier to take a piece of #14 wire from a piece of romex and solder it on the bottom (after subtracting the length from the total). The junction is now the solder point for the coax. Wire nuts can be used here if your iron isn't up to the job.

What Kurt suggests with ladder line is sometimes a bit hard to do.



Stripping the coating on the ladder line isn't easy. Best thing is to start with a soldering iron to soften it then hack away with a knife or cutting pliers.

Be sure and tie the top wires together, then tie a piece of twine to the junction. This can be used to insert the wire and foam into the tube and then it should be looped down on the outside. A PVC cap can now be put on the top and the excess twine cut loose. The twine will keep the antenna from sagging inside the pipe.

I usually use sheet metal screws to hold PVC together. The PVC glue does a better job, but one impossible to undo and repair mistakes. Whether you short the bottom of the half wave or not doesn't seem to be important.

A "J" antenna has two parts — it's a half wave dipole fed on the voltage end with a matching transformer. For Hams, it is easier to make it linear. Commercial antenna manufacturers usually make a tapped coil for the match. Metz and Shakespeare both make this type of marine VHF antenna. That should answer Kurt's critic of a non commercial antenna.

Think of the antenna as having two parts. Both are tuned circuits which can interact and confuse when trying to prune for low SWR. Now Kurt may object to this statement, but I've found that the quarter wave stub is the controlling factor (within reason) as to the resonant frequency. Pruning the stub will be more effective than pruning the top of the antenna.

John Belrose, VE2CV, states that a 2 meter "J" on the roof of a car results in a theoretical gain of 3.27 dbd. So Kurt's right, a ground plane may well help somewhat.

If one makes this antenna 5/8 wave long and use a 1/8 wave stub, some gain may be realized, but in this case, the ground plane is necessary.

It also turns out to be 20 feet or the legal maximum height of a flagpole in Florida to avoid the CC&R police. Some clever switching in a large flower box at the base would allow the antenna to be tuned on all the lower frequencies, and still maintaining a good (low) angle of radiation on 10 Meters.

Things to remember — the top of the stub and the top of the antenna are voltage points, which means that they are very sensitive to being too close to metal which will detune the antenna.

In the real old days the "J" antenna was horizontal with the quarter wave stub vertical, and Kurt and I called it an end fed Zepp.

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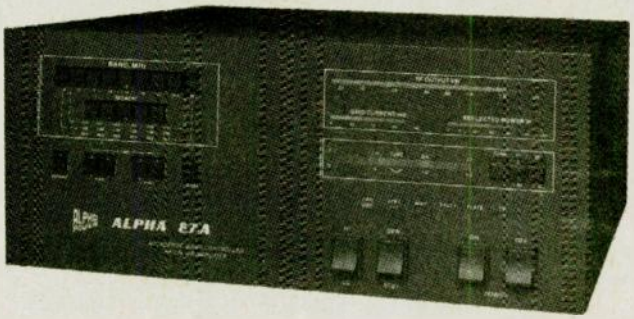

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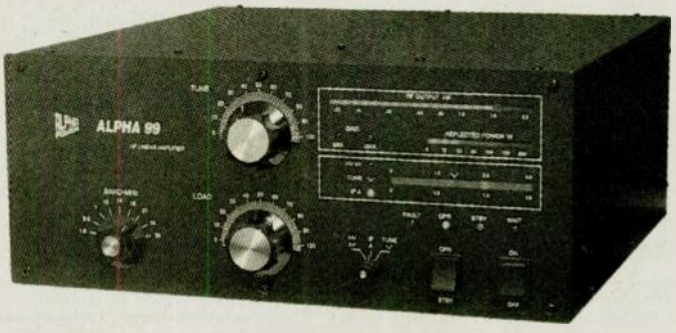

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Reusing that wall wart

Phil Karras, KE3FL

What is a "wall wart?" I'm sure you have a number of these things around; I sure do. These are those little (or not so little) black (but sometimes white) cubes with AC power connector blades on one face. You plug it into the wall and it converts the AC voltage to DC voltage at some specified current. Once you plug it into the AC outlet it sits there like a black (or white) wart on your wall, thus the term of endearment, "wall wart."

If you're like me, you simply can't throw these things away if they still work, even when the item they powered is long gone. I have all sorts of wall warts (WWs), from 6-15 volts, and with different current ratings.

There are a few things you need to know if you want to reuse a WW to power a different device:

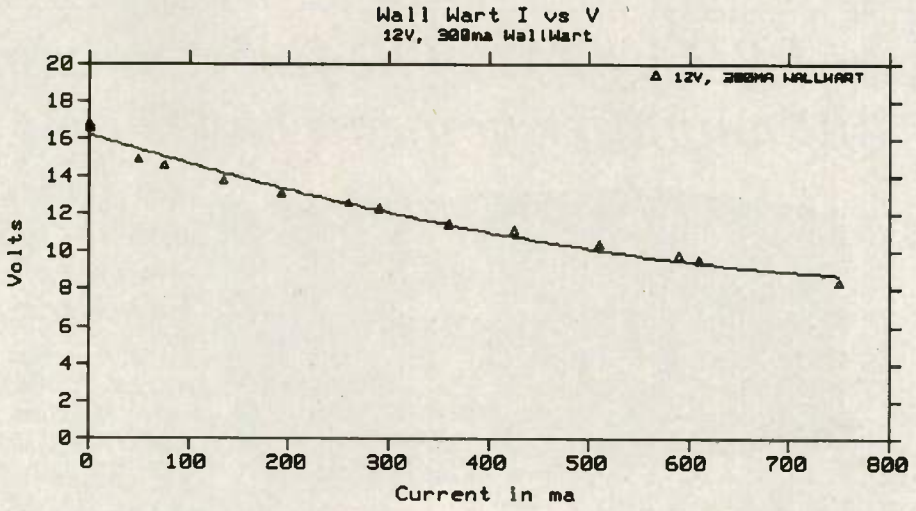
1 . You have to have the right power plug to fit the new device.

2. The plug must be wired correctly; this is called the right "polarity." Your new device won't last very long if you apply positive voltage to the negative connection. Most devices are still center positive but more and more are center negative. (I hate center negative. It puts the positive voltage on that long outer barrel and cars are usually chassis negative, what a good way to short things out in the car!)

3. You need to supply the correct voltage with no more than + 10% at the lowest current the device uses.

4. You need to make sure there is sufficient current.

While we all know that the first two are very important, some may not understand the importance of the last two taken together when using a WW. This is because we've been taught that if a supply has the correct voltage and a higher-than-needed current rating (like a battery) everything will be fine. After all, the device only takes as much current as it needs. The power supply does not "force feed" the device with more current than it should.



For a regulated constant voltage power supply, this attitude is just fine, but for the unregulated fluctuating voltage WW, it is not. The two numbers given on the WW must be taken together! Perhaps a graph will help here.

The graph shows the Voltage vs. Current graph for a 12 Volt, 300 mA wall wart. We can see that the lower the current draw from the WW, the higher the voltage. On this system if we take only 10% of the rated current, we get a voltage of about 15 volts, which is 25% higher than needed!

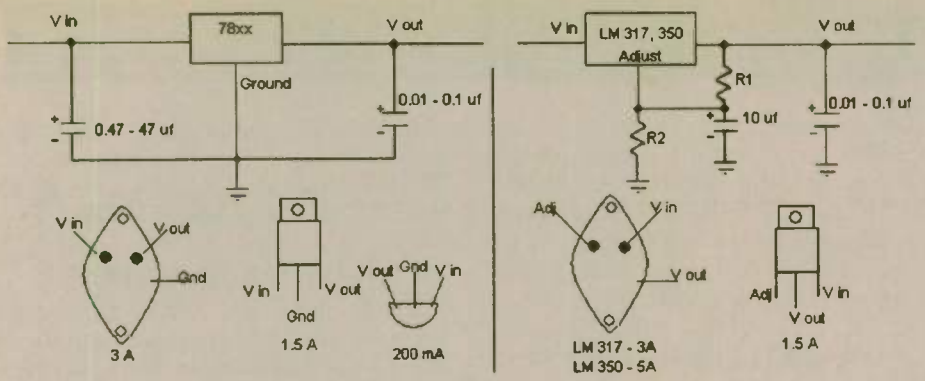
The form of the equation for this curve is: Y=a[0]+(a[1]+(a[2]*X))*X where:

a[0] = 1.620780E+001
a[1] = -1.641596E-002
a[2] = 8.581617E-006

Or the equation can be written as: Y=16.21 - .01642*x + 8.582E-6*x^2

NOTE: I've used four digits in the equation but my measurements used 3 digits at times. Thus, the final answer must be limited to three digits.

As a design example, let's assume you have a radio that needs 12 volts at up to 400 mA. We have tested the radio and it works just fine all the way down to 9.5



volts. The lowest current the radio uses (radio on but volume all the way down) is 200 mA. We have a WW rated at 12 volts 300 mA and we want to know if this WW will be able to power our new radio. At 200 mA, our WW will be up to a voltage of about 12.9. This is below the 13.2 +10% voltage so that looks OK. Now at 400 mA, the voltage will be around 11.0, which is well within the operating limits of the radio, so it looks like this WW will be OK for the new radio.

You see we first measured the current requirement for the new radio and then found a WW that supplied the needed current at the needed voltage with no more than about +10% excess voltage and it still had an acceptable low voltage for full current use as well.

Another way is to get a WW that exceeds the needed voltage and current. The voltage in this case should be at least two volts above the voltage needed, with current rating above that needed as well. We now use a voltage regulator — either the 78xx series or the LM317 variety. Make sure you use a regulator that can supply 50 to 100% more current than the needed device and that you heat-sink it properly. I did something like this for my new/used HF receiver. I built into the receiver the nine volt regulator and then supplied it with 12 volts from a battery being trickle charged through the external power port. This way, if the power fails the battery takes over.

The above diagram shows a typical circuit. You can use either a small 7809 to power a small device that normally uses a 9V battery, or a LM317 to make a 13.8 V 2A supply for a typical HT. For the 9V version, you can use the lower capacitance values; for the LM317 or LM350 use the larger values:

NOTE: R2 for the LM317/350 can be a variable resistor, which makes it a variable Vout.

The LM 317 can supply up to three amps, the 350 up to five. The equation for the resistor divider for the LM 317, 350 is: Vout = 1.25(1 +R2/R1) + (ladj)(R2). Since ladj is about 50 uA this term can be left off. There will be some slight increase in Vout with insufficient load.

I hope this helps you understand what you can and can not (or should not) do with a WW as it comes. These are wonderful little devices, but we must know how to use them properly or we can destroy the battery or device we're trying to use.

I've used them for my "Trickle Charger Plus" to keep gel cells, NiCads, and lead acid batteries topped off and "emergency ready" for years. I've also used them as they come, to power CD players, radios, and tape players. Last, I've used the regulated versions to power GameBoys, CB radios, and 2-meter HT's.

Special Events

HALLOWEEN

Transylvania County ARC will operate special event station K4HXZ on Halloween, 31 October 1800 - 2359Z. Frequencies are 7.195, 14.295, 21.365 28.335 MHz and 146.55 MHz simplex. Certificates are available by sending a QSL and a 9x12 SASE to TCARC, P.O. Box 643, Brevard, NC 28712.

MISS AMERICAN PAGEANT

Southern Counties ARA will operate special event station K2BR, starting 1400UTC 9 Oct. to 0400UTC 15 Oct. from the Miss America Pageant in Atlantic City, NJ. Suggested frequencies are: 7.050, 14.050, 21.050 and 28.030 MHz CW. 7.250, 14.250, 21.325 and 28.325 MHz SSB. Certificates will be availabe by sending a QSL and a #10 SASE to SCARA, P.O. Box 121, Linwood, NJ 08221.

BOY SCOUT JAMBOREE

Mount Diablo ARC will hold a special event station W6CX during the Pacificon 2000 Amateur Radio convention during the Boy Scout Radio Jamboree, 21-22 Oct. Suggested frequencies are: 14.290, 21.360 and 28.390 MHz. Certificates are available by sending a QSL and an SASE to MDARC, P.O. Box 23222, Pleasant Hill, CA 94523.

AMATEUR RADIO EXHIBIT

The Virginia Air & Space Center Amateur Radio Group will operate special event station KE4ZXW celebrating four years of 9600 baud automatic satellite station operation and the Amateur Radio Exhibit 30 Sept-01 Oct. on UO-22 or KO-25 (24 hours continuous) and from 1500-2200Z on the following frequencies at the times listed: 7.265 (:00), 14.265 (:15) and 28.365 (:30). For QSLs send your QSL card and an SASE to Ed Brummer, W4RTZ, 108 Oyster Cove Rd. Yorktown, VA 23692.

WØFUN

WØFUN (Nowhere, IL) will be operating a Special Event on 21 Oct., 1500-2000Z. Fequencies: 7.234 & 14.243 MHz +/-. For certificate send a SASE to: Iowa Radiosport Society, P.O. Box 73, Denmark, IA 52624-0073.

ANDY DEVINE DAYS

The Hualapai ARC WB6RER will be operating a Special Event from Kingman, AZ and its Andy Devine Days celebrations. Operation will be from 1500 UTC 7 Oct., - 1900 UTC 8 Oct. Frequencies include: 3.900, 7.250, 14.250, and 21.350 MHz. Certficates may be obtained by sending a QSL with contact number and a 9x12 SASE($1 postage) to: Hualapai ARC, P.O. Box 4364, Kingman, AZ 86402.

SCOUTSHOW 2000

The Connecticut Rivers Council, BSA will be operating K2BSA/1 at ScoutShow 2000, Hammonasset Beach State Park. 1600 UTC 13 Oct. - 1600 UTC 15 Oct. "Scout Freqencies" 7.270, 14.290, 21.360, 28.390 MHz. Also CW, digital modes, and SSTV. QSL to Larry Wolfgang, WR1B, 30 Cottage Rd. Boxah, CT 06334.

Silent Keys

Guillermo Schwarz, KP3S

Former ARRL Puerto Rico Section Manager Guillermo M. Schwarz, KP3S, and his wife, Hildelisa, died 29 July after Schwarz's experimental aircraft crashed in Ohio. The mishap is said to have occurred as the single-engine, two-seat kit plane was attempting a final landing approach at Wayne County Airport near Wooster. The couple died after being taken to separate hospitals. The Federal Aviation Administration is investigating. The couple had flown to the mainland on vacation.

Schwarz, 49, was Puerto Rico's Section Manager from October 1994 until September 1998 and had been serving as a Southeastern Division Assistant Director since 1996.

Schwarz, who had piloted B-52s in the service, had only completed building the aircraft a few weeks earlier.

Joe Schmidt, W4NKJ, the former volunteer coordinator for W4EHW at the National Hurricane Center said Schwarz was "a good friend and vigorous supporter of the Amateur Radio work at the Center." he said Schwarz HF APRS weather signal served as a regular beacon from Puerto Rico and helped to validate the technology in its early years. "The sudden death of Guillermo and his wife Hildelisa is both a personal tragedy and a great loss to the Amateur Radio community," Schmidt said. — *ARRL Letter*

Hans D. Peters, VE3CRU

Well-known VHF-UHF enthusiast Hans Peters, VE3CRU, of Cobourg, Ontario, reportedly died 22 July after a long battle with cancer. An avid EMEer, Peters was also a key figure in the VE3ONT Algonquin EME expeditions in 1992-95 and had 48 states worked on 432 MHz. A North American distributor for Microwave Modules in the 1970s, Peters is credited with helping to introduce many newcomers to VHF and UHF operating. — *VE3AX, ARRL Letter*

John F. Fish, K5GBN

A charter member since 1960 of the Wheat Straw Amateur Radio Club, John F. Fish, K5GBN died 26 May in El Reno, OK. He was a take-charge individual doing all of the equipment maintenance and Field Day site preparation for the club for o istian Church of Calumet for 35 years. — WA5UEW

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31 on 31 Award

Looking for the newest award you can earn in Amateur Radio? Have we got an award for you!

Worldradio is now offering the new "31 on 31 Award" to our readers. How do you earn this new, highly coveted and prestigious award? Work 31 countries on PSK31! It's easy!

Of course, there are rules.

1. The 31 countries must be soverign nations. No teeny little possessions of another country.

2. The countries contacted must be on ***Worldradio's*** list of nations. No, you can't send in a list of DXCC countries. There are some similar countries, but believe us, our list is different than the League's list.

3. Send us a list of your contacts, by call sign, date and time, and band. If you want to send some commentary along, we just might put it in the magazine. We trust our esteemed readers, so we aren't asking for verification from other amateurs, your letter carrier, the local CIA office or the IRS. Just send your list. That's it! We don't even want your hard-to-get QSL cards.

4. Enclose $3.10 and we'll send you a nice 8x11 unfolded certificate suitable for framing.

5. Send your funds and list to: ***Worldradio***, 2120 28th St. Sacramento, CA 95818. Attention: 31 on 31. (If you want to send in more than the $3.10, we'll have lunch on you!)

Need a list of the nations? Send your request along with an SASE with 55 cents postage, and we'll send the list — and a handy log sheet for you to keep track of your contacts.

Be the first on your block (or city) to hang one of our prestigious awards on your shack wall! Proudly display the certificate at your club meeting. Make the rest of your Amateur Radio buddies jealous as heck, and be sure to goad them into getting on the air with this new mode. You may proudly hold your head up high and chant, "I've got my 31 on 31 Award, and you don't — neener, neener, neener!"

Contact All Time Zones

To help commemorate 25 years of ***Worldradio***, we announced an award known as "Contact All Time Zones" (CATZ).

• Rules

The start date for valid contacts is 01 July 1996 at 0000Z.

The world is divided into 24 time zones. Each time zone is 15 degrees wide. For the sake of this award, half-hourly zones and out-of-zone artificial time changes will be ignored.

This award is based on the true 15 degrees each, world map 24 time zones.

The applying station must have one (two-way) contact on Amateur Radio allocated frequencies with a station in each of the world's 24 time zones. Contact with one's own nation does not count.

The operator applying for the award must have made all 24 contacts from a location within the same country.

The award may be endorsed as the applicant wishes in regard to band and/or modes.

• Application

The applying radio operator must be in possession of 24 QSL cards, one from each of the time zones.

A list shall be made showing each contact's call sign, date, band, mode and the time zone starting with the prime meridian (0°) and moving eastward.

There is a fee of $5 to cover the cost and mailing of the 8 x 10 certificate (mailed unfolded).

It is not necessary to mail your QSL cards to ***Worldradio***. Send a statement signed by two other licensed radio amateurs (General Class or above) that they have inspected and verified the required QSL cards.

Address applications to CATZ Award, ***Worldradio***, 2120 28th St., Sacramento, CA 95818.

Recipients of the CATZ award will be announced in the ***Worldradio*** DX column.

Letters to the Editor

Worldradio's 30th...

What a proud thing it is for you to reach the thirtieth year of *Worldradio*. You've (Armond) always been right for the job, and you had the persistence to make it happen.

I recall your passion for Amateur Radio in 1961 when you Elmered me, and the media skills you used at KATI.

Enjoy your well-earned honor, my friend.

Dave Reynolds, KE7QF
Tempe, AZ

Congratulations! I read every major Amateur Radio-related magazine, and each has something to offer to our avocation. *Worldradio*, however, is unique in both its content and format. I look forward to each issue and know that Hams, new and "experienced", do as well. Congratulations on thirty years of success and I wish you many, many more. And, Armond, I hope you will be around on *Worldradio's* fiftieth anniversary.

Jerry Boyd, K6BZ
Ono, CA

National simplex calling frequency...

Enjoyed your editorial and specifically enjoyed what you had to say about 146.520 MHz and its role as the National Simplex Calling Frequency.

In my humble opinion, we, the amateur community, are to blame for not using this frequency to our advantage. We need a leader to stand up and explain the virtues of having a 'specific' frequency that all Hams should listen to when traveling.

CB operators developed "Channel 19" as such a calling frequency and from the day I installed and turned on my CB rig, I knew of its existance. There were later challenges to it and many CBers began using "Channel 5" when traveling Interstate 5, or "Channel 10" when on Interstate 10. However, for the most part Channel 19 won out.

Not so with 146.520 MHz. Although many of us heard about the "National Calling Frequency" designation for this channel, Hams do not have a concentrated effort to use it for "on the road" contacts. Personally, I also monitor the channel when traveling I-5 between Los Angeles and Lakeport, CA — I rarely have been able to make a contact with other traveling Hams. I know that they are out there, but they are not listening on 146.520!

I hope that your editorial opens their eyes, however, I am not very optimistic about it. Maybe *Worldradio* needs another department entitled 'Simplex Communications', where the editor could lead the charge to more efficient use of our simplex frequencies.

Jim Keck, N6JIM
Valencia, CA

You never know...

I was very moved by Ed Petzolt's piece about the tragedy off the coast of Honduras. His description of the efforts of all involved was gripping. Through those efforts a tragedy was turned around — it brought out the very best in our species.

Ed Collins, KB2ZYU
Putnam Valley, NY

QSL info?

I've waited years to work BY-land. I finally did it! And, worked Marty, OH2BH when he was BY1DX — why is he the manager of this operation if he is running around the world and will make you wait years to get his card?

What's up with that?

Jeff St. Pierre, N1HCL
Shrewsbury, MA

(Ed. Oh, Jeff, you speak with forked tongue about one of our Amateur Radio heroes! Marty has been the best friend of DXers since the Colvins. AND, he answers all QSL requests in a timely fashion, unlike lots of DX stations. As proof I offer my card from Marty, as BY1A, received three weeks after my card was mailed!

If you are not happy with his response, I'm sure he would like to talk to you about being his stateside QSL manager!)

Morse code...

No, you are not "cut from a different cloth" because you don't "disfavor" those of us who continue to use Morse Code as a matter of choice.

I learned the code in 1932 listening to idling commercial stations — first dots and dashes, then letters, then words. I joined the Army Signal corps, progressed to 35 wpm, was an operator in the War Department net for three years, then a commercial radiotelegraph operator at RCA Communications for four years.

I earned my living as a Morse operator during those years, thus qualifying for membership in the Society of Wireless Pioneers (of which I became President in 1994). No one knows better than I that Morse is "obsolete", but that doesn't stop me from using it and enjoying it.

Jack Kelleher, W4ZC
Silver Spring, MD

Station Appearance

Send Worldradio a picture of your shack and the staff will choose a winner to receive a free one-year subscription to Worldradio! Stations will be judged by neatness (wires tucked away, etc.) and accessibility of equipment. Monetary value of equipment is not a consideration.

Doug Casamer, W8DMC

Like all Amateur Radio operators I'm as proud of my shack as the next operator is. Nevertheless it takes time, effort and hard work to eventually assemble the working order and arrangement of ones "shack." One generally requires a larger than normal desk to fully accommodate ones equipment over the years. But eventually we settle on our best and most recent accusations for complete service. The design is always a personal one, arrangement for conveyance is nearly as important as the antenna array.

This is my current operational station (basement setting). The room is exclusively set aside for radio operation — no transit traffic here. The 12x12 foot room has a locking door, always best with children around. They love to play "CQ, CQ, CQ" when Dad's away! However, some very important items you don't see in this picture are an available CO2 fire extinguisher, ceiling fire alarm and a behind-the-table fire alarm. It always pays to stay safe and gives some peace of mind.

The ceiling has four inches of sound insulation that takes out all the ambient noise. Between the radio table and the computer station, (which seems to he more common than not in shacks these days), is a swivel-rolling chair. It really speeds up the back and forth, to and fro radio communications versus computer communications.

The actual equipment used, from bottom left to right: Ameritron ALS 600 Amplifier, ICOM 737 160-10 General Coverage Transceiver, just above it, is a "Code Breaker", for when the old timers hit the fast key. ICOM IC 275H 2-meter all mode. Second shelf, left to right: Hygain Ham IV Rotator Control Box, MFJ 986 Tuner, Yaesu G-450XC Rotator Control Box, and Kenwood SP-230 Speaker. Third shelf: Ameritron power supply, ICOM SP-20 Speaker, Diamond SX 400 SWR/PWR calibration meter and a Uniden Bearcat BC 895XLT scanner. On the top shelf: VHF/UHF beam and vertical antenna switch, Alpha Delta 4 antenna switch, Astron RS 35M power supply and the second Astron RS 35M power supply. On the desktop I have two Bencher Keys, one for HF, the other for 2-meter work.

I can not speak enough about one's antenna array. You can have all the designer equipment you can afford, but it just won't get out without the best antenna array you can muster up. I use several types, from verticals to long wires to inverted Vs and a beam, neighborhood and wife permitting. Residing in the country I'm luckier than most when it comes to antennas.

Two Carolina Windoms (40-10M) and (80-10M), both in different directions. I also use a Cushcraft R-7 40-10M vertical, which has always been an excellent antenna and a Comet GP-9 2m/440 vertical at 60 feet, a Cushcraft 13B2 at 65 feet and a Mosley 4-element beam at 65 feet. My next set up will be Double Bazookas for 160 Meters.

W-100-N

The following DXers satisfactorly completed the requirements for *Worldradio*'s Worked 100 Nations Award during the month of July 2000:

571. Dennie Eisele	**WA9MTP**
572. Cathy Gardenias	**N6DXC**
573. Paul Dahlitz	**WA6DAW**

CATZ

No applications were received during the month of July for this award.

Agalega Island (3B6)

The 3B6RF DXpedition to Agalega Island (AF-001) is in the final countdown with the team to leave Zurich on 30 September 2000 for the long flight to Mauritius. From there they will travel by sea to the island and plan to be up and ready with eight stations by 08 October. 3B6RF will be on the air continuously for 16 days until 24 October when the team will then disassemble the stations and prepare for departure.

The DXpedition camp will consist of no fewer than 28 tents. They will be set up between the rudimentary landing strip and a small village. The camp will be as long as 1.3 km — that is to say, from the first to the fourth operating tent. Eight stations will be put into these four operating tents measuring 3 X 3 meters. The social life will be centered on the restaurant as well as the relaxation tent measuring 6 X 3 meters each. Next to them there are two more tents containing the kitchen and the material. In order not to disturb each other when changing shifts each member sleeps in his individual sleeping tent.

I know many a deserving DXer still needs this for an all-time new one and missed the last DXpedition to that entity. Let's hope the propagation is favorable this time, especially us suffering sixes on the west coast.

Bhutan (A5)

The Clipperton DX Club (CDXC) DXpedition to Bhutan should be on just about now, leaving from Paris on 01 September. Keep an ear open for them and listen carefully as they are limited to 100 watts.

Charly Harpole, K4VUD, is also exploring the possiblity of taking a team to Bhutan the first week of December. Anyone interested in going should contact Charly at k4vud@hotmail.com. Be prepared for out of pocket expenses.

Mexico (XE) — Active on the bands out of Aguascalientes in Mexico is Ben Ubach, XE2AUB. Ben is active in DX contests and uses an FT-707 running into a G5RV antenna. —*photo courtesy of XE2AUB*

Kingman Reef (KH5K)

The Kingman Reef/Palmyra DX Group will operate from Kingman Reef (OC-096) in early October 2000. Financial support is encouraged to make this very needed entity available to all DXers world-wide.

The group is international in make up and highly experienced in operations from locations such as this and their experience will enhance your chances of increasing not only your total count but also many band/mode totals. Current team members include NI6T, N4XP, N4BQW, KH7U, NH6UY, K4UEE, WB4JTT, K3VN, DJ9ZB, AA7A, OH2BU, WA1S, and RA3AUU. Additional team members will be added for a total of 16 operators.

The DXpedition will run for approximately 12 days in early October and will include two full weekends. Planned are six stations with amplifiers and Yagis on higher bands and a Titanex and Battle Creek Special on low bands. Operation will also be 6 Meters, RTTY and SAT. A web site will operate and N1DG is the web master.

KR/PDXG team members have been

operating from Palmyra Atoll since early May as we assist The Nature Conservancy in establishing a base camp while the Conservancy completes the final stages of its purchase of Palmyra Atoll from its private owners. Operation from Palmyra will also occur as we stage and transit the atoll during the primary operation on Kingman Reef.

Donations are being solicited to offset the high cost of this type of operation. Please assist in making this operation a success by donating any amount you can. If your donation is in the form of a check or money order, please make it out to Kingman Reef/Palmyra DX Group and mail it to Tom Harrell, 2011 New High Shoals Road, Watkinsville, Georgia 30677.

Questions can be forwarded to Tom Harrell, N4XP, at n4xp@juno.com or Garry Shapiro, NI6T, at ni6t@intuitive.com.

Ascension Island (ZD8)

The Daily DX reports that Chris Gare, G3WOS, will be active from Ascension Island (AF-003) starting 30 October 2000. He will be active on 6 Meters as ZD8SIX.

IOTA

Roger Balister, G3KMA, the RSGB IOTA Manager, notes the recent operations that have provided acceptable validation material to the IOTA Committee:

AF-085 ZS31ER	Elephant Rock	April 2000
AS-012 JA4PXE/6	Nagashima	May 2000
AS-012 JI3DST/6	Nagashima	May 2000
AS-037 JI3DST/6	Koshikijima Islands	April/May 2000
AS-056 JA4PXE/6	Ojima, Danjo Islands	May 2000
AS-067 JA4PXE/6	Uji Island	May 2000
AS-067 JI3DST/6	Uji Island	May 2000
AS-117 JA4PXE/4	Kasadoshima	February/March 2000
AS-145 E29DX	Koh Nu	April 2000
AS-146 BI4L	Changdao Island	May 2000
NA-213 KB5GL/4	Dauphin Island	June 2000
SA-013 XRØZY	San Ambrosio Island	April 2000
SA-087 AYØN/X	Pinguino Island	April 2000

The above list includes operations where validation material was volunteered, and not specifically required for credit to be given. In all cases, cards now submitted will be accepted by checkpoints if they meet normal standards.

With the addition of the Black Sea islands to the new IOTA Directory, an Ukrainian group fired up with EM5UIA and activated three brand new islands with the following results: Lebyazh'yi Island (EU-180), 4,500 contacts in 43 hours between 02 and 04 July; Kalanchakskiye Island (EU-179), 1,700 contacts in 24 hours between 05 and 06 July; and Poludenyi Island (EU-182), 2,400 contacts in another 24 hours between 07 and 08 July 07-08.

Here is another monthly IOTA selection for July 2000. I have not included anything that was on during the annual RSGB IOTA contest. Also, it is greatly condensed as there was much activity in anticipation of that contest, especially from the Europeans. Apparently, when the European DXer goes on holiday, his radio is now part of his baggage!

AF-047 CQ9S	Selgavens Islands	04-13 Jul
AF-063 5H1/PA3GIO	Pemba Island	01 Jul
AF-087 5I3A	Yambe Island	01-10 Jul
AN-006 EM1KY	Galindez Island	11-31 Jul
AN-015 8J1RL	Ongul Island	02-11 Jul
AS-005 RZ9DX/Ø	Dickson Island	02-27 Jul
AS-008 JL1PHD/1	Toshima Island	16 Jul
AS-008 JH1OTE	Kozu Island	06 Jul
AS-015 9M2TO	Penang Island	02-15 Jul
AS-026 HL4HLD	Cheju Island	01 Jul
AS-028 UAØQBA	Kotelny Island	20-23 Jul
AS-032 JA6CTW	Yaku Island	02-21 Jul
AS-041 JN4MCL/4	Oki Archipelago	21 Jul
AS-041 JI3DST/4	Oki Archipelago	28 Jul
AS-045 HL5FUA	Ullang Island	02-15 Jul
AS-053 HSØ/IK4MRH	Phuket Island	07-31 Jul
AS-056 JA6GXK	Danjo Archipelago	02-12 Jul
AS-066 RØL	Putyatina Island	24-28 Jul
AS-079 JR6USF/6	Ikema Island	07 Jul
AS-081 HLØO/5	Bijin Island	01-02 Jul
AS-081 HLØAGD/5	Koge Island	04-05 Jul
AS-083 RA9LI/9	Belyj Island	01-23 Jul
AS-090 HLØIHQ/2	Tokchok Islands	15 Jul
AS-093 DS5FNE/4	Sohuksan Island	26-27 Jul
AS-095 RIØZKR	Krasheninnikova Is	26-31 Jul
AS-099 YMØKA	Bozca Island	09-14 Jul
AS-099 TA2DS/Ø	Bozcaada Island	11-15 Jul
AS-105 HLØIHQ/2		15-16 Jul
AS-136 BD4ED	Chong Ming Island	06 Jul
AS-147 JJ8XNA	Okushiri Island	01-21 Jul
AS-148 DSØDX/4	Wi Island	07-08 Jul
AS-149 RKØFWL/P	Moneron Island	25-31 Jul
AS-150 BI4S	Lingshan Island	28 Jul
EU-017 ID9/IK2DUV	Lipari Islands	08 Jul
EU-016 9A5CY/P	Korcula Island	09-14 Jul
EU-016 9A5KV/P	Sipan Island	08-09 Jul
EU-016 9A/OK1FZM/P	Brac Island	08-14 Jul
EU-028 IA5/IZ5BTC	Elba Island	08-25 Jul
EU-030 OZ/DJ6SI	Bornholm Island	15-21 Jul
EU-032 F8CGL/P	Oleron Island	24-28 Jul
EU-032 F5UNY/P	Oleron Island	12-18 Jul
EU-034 ESØNW	Hiiumaa Island	13 Jul
EU-036 LA8LA	Hitra Island	09 Jul
EU-036 LA4XGA/P	Aspoya Island	02 Jul
EU-039 F/ON4LCW	Ile Grande	07-20 Jul
EU-042 DLØFM	Pellworm Island	16-23 Jul
EU-042 DK8OL	Isle of Sylt	16-27 Jul
EU-042 DH3RB/P	Isle of Sylt	20-31 Jul
EU-042 DL4FCH/P	Pellworm Island	15-25 Jul
EU-043 SM6HRR/P	Hamneskar Island	15 Jul
EU-045 IBØ/IN3DEI	Isola di Ponza	07-15 Jul
EU-046 LA1CI	Ringvassoey Island	01-02 Jul
EU-047 DQØKBM	Borkum Island	27-28 Jul
EU-047 DJ9IN	Norderney Island	12 Jul
EU-049 SV8/ON5CT	Samos Island	12-25 Jul
EU-052 SV8/DJ5NC	Zakynthos Island	07-08 Jul
EU-052 SV8/IK7LMX	Corfu Island	20-23 Jul
EU-054 IF9ZRQ	Levanzo Island	15-16 Jul
EU-054 IF9/IT9AUP	Levanzo Island	09-23 Jul
EU-054 IF9/IT9PPG	Favignana Island	02-21 Jul
EU-055 LA2BKA	Reksteren Island	03-17 Jul
EU-059 GM3VLB/P	St Kilda Island	28-31 Jul
EU-059 MMØBCR/P	St Kilda Island	28 Jul
EU-060 SVØLR	Evvoia Island	02-14 Jul
EU-062 LA6OP	Helligar Islands	21-23 Jul
EU-063 JW5RIA	Hopen Island	10-31 Jul
EU-064 F5MFO/P	Noirmoutiers Island	10-12 Jul
EU-066 RI1OSO	Solovetskiye Island	12-14 Jul
EU-067 SV1CEI/8	Kea Island	10-19 Jul
EU-068 F/ON7PQ/P	Sein Island	28-31 Jul

EU-068 F/ON4ON/P	Sein Island	26-31 Jul
EU-073 IJ7/IK7AFM	San Pietro Island	26-27 Jul
EU-075 SV1TP/P	Poros Island	14-23 Jul
EU-078 ED3IM	Medas Gran Island	22-23 Jul
EU-084 SM5OIG	Roslagen Island	05-31 Jul
EU-086 RI1POM	Matveev Island	21-28 Jul
EU-087 SM3LF	Alno Island	02-27 Jul
EU-088 OZ/DL3ALF/P	Laesoe Island	23-26 Jul
EU-088 OZ/DL2JRM	Laesoe Island	23-25 Jul
EU-092 MMØBSM/P	Summer Isles	31 Jul
EU-096 OH1TD	Korpo Island	02-07 Jul
EU-096 OH1LEG	Kemio Island	23 Jul
EU-096 OH/F2MM	Attu Island	17-21 Jul
EU-098 DL6NBR/P	Poel Island	08-14 Jul
EU-102 RI1POD	Dolgy Island	16-18 Jul
EU-120 GBOSGI	St Georges Island	03-06 Jul
EU-120 G4EMX/P	Isle of Wight	16 Jul
EU-122 GIØGDF/P	Rathlin Island	16-20 Jul
EU-122 GIØPGC/P	Rathlin Island	17-20 Jul
EU-129 DL5ZG/P	Usedom Island	13-21 Jul
EU-133 UE1CIG	Gogland Island	27-28 Jul
EU-136 9A2CY/P	Cres Island	24-31 Jul
EU-136 9A/OE1EMS	Krk Island	18-25 Jul
EU-136 9A/OK1DSM/P	Cres Island	10-19 Jul
EU-136 9A/DL4WE	Losinj Island	03-06 Jul
EU-136 9A6AA	Losinj Island	02-21 Jul
EU-136 9A/OE5BBL	Cres Island	03-11 Jul
EU-138 SM/DH2YAU/P	Sturkoe Island	06-14 Jul
EU-142 ED1BD	Mouro Island	20-22 Jul
EU-145 CT1EGW/P	Culatra Island	01 Jul
EU-145 CT4NH/P	Culatra Island	01 Jul
EU-147 RA1TC/1	North Kolovar Is.	01-02 Jul
EU-147 UA1TBK/1	North Kolovar Is.	01-02 Jul
EU-147 UA1TAN/1	North Kolovar Is.	01-02 Jul
EU-153 RZ1OA/A	Lyasomin Island	25-31 Jul
EU-153 UA1OLM/A	Lyasomin Island	26-28 Jul
EU-156 F6EAS/P	Torbelaine Island	06 Jul
EU-157 F5PSI/P	Cezambre Island	14-16 Jul
EU-157 F5PSG/P	Cezambre Island	14-16 Jul
EU-161 RW1ZZ/P	Lumbovskiy Island	28-31 Jul
EU-170 9A4A	Pag Island	01-28 Jul
EU-170 9A5JR/P	Vrgada Island	16-31 Jul
EU-170 9A/OK1TC	Vir Island	26-28 Jul
EU-170 9A5DJ/P	Vir Island	25-28 Jul
EU-171 OZ4PAX	Vendsyssel Island	02-27 Jul
EU-172 OZ5MJ	Fyn Island	01-25 Jul
EU-173 OH1/IK3GES	Reposaari Island	13-14 Jul
EU-176 SM3JBE/3	Klacksorarna Island	01 Jul
EU-176 SM3TLG/3	Klacksorarna Island	01 Jul
EU-178 ES8X	Kihnu Island	24-27 Jul
EU-179 EM5UIA	Kalanchakskij Is.	05-06 Jul
EU-179 UR3GA	Orlov Island	28-31 Jul
EU-179 UR5ZEL/P	Berezan Island	02-22 Jul
EU-180 EM5UIA	Lebyazh'i Islands	02-04 Jul
EU-181 LZ5QZ/1	Sveti Anastasia Island	07-08 Jul
EU-181 LZ2FV/1	Sveti Anastasia Island	08-09 Jul
EU-181 LZ1UQ/1	Sveti Anastasia Island	07-09 Jul
EU-181 LZ1KMS	Sveti Anastasia Island	05-09 Jul
EU-181 LZ2JE/1	Sveti Anastasia Island	07-08 Jul
EU-181 LZ2FI/1	Sveti Anastasia Island	07-09 Jul
EU-181 LZ2CJ/1	Sveti Anastasia Island	07-08 Jul
EU-182 EM5UIA	Poludyn Island	07-08 Jul
EU-183 YP1W	Sacalinu Mare Is.	08 Jul
EU-184 OH8/IK3GES/P	Hailuoto Island	10-11 Jul
EU-185 UE6AAA	Sudzhuk Island	21-23 Jul
EU-186 TA1/SP6TPM/M	Gokceada Island	23-24 Jul
EU-187 SV9/TWØFQZ	Gavdos Island	23 Jul
EU-187 SV9/IZØCKJ	Gavdos Island	23-27 Jul
OC-010 V63KR	Ponape Island	01-11 Jul
OC-022 YC9BU	Bali Island	02-14 Jul
OC-027 FO5QG	Nuka Hiva Island	18 Jul
OC-033 FK8HZ	Lifou Island	02-10 Jul
OC-049 A35IQ	Tongatapu Island	04-05 Jul
OC-063 FOØMOT	Gambier Islands	09-23 Jul
OC-066 FOØMEX	Rangiroa Island	13-16 Jul
OC-066 FOØCLA	Tatakoto Island	05-31 Jul
OC-067 FOØMCC	Huahine Island	18 Jul
OC-067 FO5NL	Raiatea Island	13 Jul
OC-067 FO5QS	Huahine Island	05-18 Jul
OC-075 YC5PQM	Batam Island	31 Jul
OC-075 YC5TML	Batam Island	02-04 Jul
OC-082 ZK1AXU	Penryhn Island	09-15 Jul
OC-130 DU8BOF	Mindanao Island	09-14 Jul
OC-130 DU8DJ	Mindanao Island	03-25 Jul
OC-137 VK4LV	Bribie Island	12-19 Jul
OC-137 VK4CY	Lamb Island	04-28 Jul
OC-148 YC9MKF	Timor Island	22 Jul
OC-169 A35RK	Lifuka Island	03-27 Jul
OC-197 8A3B	Bawean Island	22-23 Jul
OC-232 4W6GH/P	Atauro Island	07-09 Jul
SA-008 LU8XP	Terra del Fuego	02-20 Jul

W9DXCC

The 48th Annual W9DXCC Convention will be the weekend of 15 and 16 September at the Holiday Inn in Rolling Meadows, Illinois. Bill, W9VA, the W9DXCC 2000 Chairman, promises an incredible program with: A52A Bhutan with Glenn Johnson WØGJ; 4W/W3UR East Timor by Bernie McClenny W3UR; FOØAAA Clipperton by Jim Mornar N9TK; and the first Chesterfield operation, TXØDX, by Wayne Mills N7NG.

Also included in the program will be Bob Schenck, N2OO, with the Hillview Gardens Borneo and Spratly DXpedition; Joe Pontek, K8JP, with Belize V31JP; a special 160-meter presentation by "DXing on the Edge" author Jeff Briggs, K1ZM; a propagation program by NCJ and ***Worldradio*** columnist Carl Luetzelschwab K9LA; Jay Terleski's (WXØB) "Short Study of Stacked Yagi-Uda Antennas" as presented at the International Contest Meeting in Helsinki, Finland: and much more, including On-site ARRL DXCC Card Checking.

RSGB Convention

The annual RSGB HF and IOTA Convention will once again be held at the Beaumont Conference Centre at Old Windsor near London this fall. The dates this time will be the weekend of 13-15 October.

An interesting program has been planned and if you are looking for a Amateur Radio convention of other than an American approach I highly recommend this one. Mari and I attended last year's affair and it was very enjoyable.

A nice feature of this function is that you can book a complete package which includes the convention, meals and the room. Cost for one person is £165, or if you bring your partner it would be £240.

You may contact the sales desk at 44(0) 1707 659015, or e-mail them at sales@rsgb.org.uk. Bookings are also accepted via fax at 44(0) 1707 645105.

DX clubs

The Long Island DX Association (LIDXA) recently elected their officers for the 2000-2002 term to include: Martin P. Miller, NN2C, President; Pat Masterson, KE2LJ, Vice President; Ed Whitman, K2MFY, Secretary; and

DX World

DX Prediction – October 2000

Maximum usable frequecy from West Coast, Central U.S. and East Coast (courtesy of Engineering Systems Inc., Box 1934, Middleburg, VA 20118). The numbers listed in each section are the average maximum usable frequencies (MUF) in MHz for contacting five major areas of the world centered on Africa—Kenya/Nairobi, Asia—Japan/Tokyo, Oceania—Australia/Melbourne, Europe—Germany/Frankfurt, and South America—Brazil/Rio de Janeiro. Smoothed sunspot number = 135. Chance of contact as determined by path loss is indicated as bold *MUF for good, plain MUF for fair, and in *(parentheses)* for poor. UTC in hours.

CENTRAL U.S.A.

UTC	AFRI	ASIA	OCEA	EURO	SO AM
8	*(14)*	*12	*21	12	*19
10	*(14)*	12	*19	*(11)*	*19
12	28	11	*18	*23	*33
14	33	*12	*27	*25	*38
16	*34	*(12)*	24	*24	*41
18	*34	*(11)*	*(20)*	19	*42
20	*33	23	31	14	*43
22	*28	*27	*37	13	*42
24	*19	23	*40	*12	*37
2	*17	15	*32	*12	*30
4	*15	14	*27	*11	*26
6	*(15)*	13	23	*12	*23

WEST COAST

UTC	AFRI	ASIA	OCEA	EURO	SO AM
10	*(14)*	*12	*22	*(12)*	*20
12	*(14)*	*12	*20	*(11)*	19
14	27	*11	*19	23	*34
16	32	*15	*23	23	*41
18	*33	14	*(20)*	19	*42
20	*33	*29	30	14	*43
22	*28	*29	*37	*(13)*	*42
24	24	*27	*41	*(12)*	*38
2	*18	*24	*41	12	*31
4	*17	*16	*36	11	*26
6	*(15)*	14	*30	*13	*23
8	*(14)*	*13	*25	*(12)*	*19

EAST COAST

UTC	AFRI	ASIA	OCEA	EURO	SO AM
7	18	*(12)*	20	*12	*21
9	17	12	*19	11	*19
11	*36	11	*18	*23	*30
13	*42	*13	*29	*27	*35
15	*44	*(12)*	25	*26	*39
17	*44	*(12)*	22	*24	*42
19	*37	*(11)*	27	*20	*43
21	*31	23	35	14	*42
23	*24	23	39	*13	*39
1	*22	15	*31	*12	*32
3	*20	14	26	*12	*27
5	*18	13	23	*11	*23

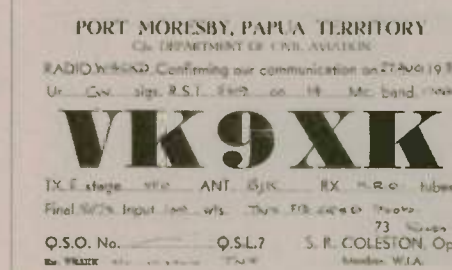
Russ Lusterman, W2RL, Treasurer. Lou Dietrich, N2TU; John Krzymuski, N2QW; and Larry Strasser, K2LS, were elected Directors.

East coast DXers should be familiar with this organization and long time DXers will remember the Long Island DX Bulletin which started out as a publication of this group prior to being taken over by Harvey McCoy, W2IYX, now a Silent Key.

And, over on the other side of the pond the Chiltern DX Club (CDXC) has elected their officers to serve until 30 June 2001: President, Bob Whelan, G3PJT; Chairman, Neville Cheadle, G3NUG; Vice Chairman, Mike Devereux, G3SED; Digest Editor, Don Field, G3XTT; Secretary, Shaun Jarvis, MØBJL; and Treasurer, Barry Cooper, G4RKO. Some of these DXers you will recognize as very active IOTA promoters.

Antique QSL department

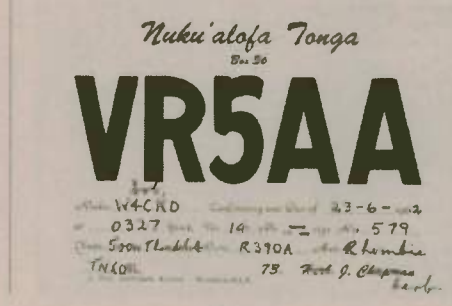
Here is another selection of old QSL cards courtesy of Bob Ekleberry, W4CKD. Some of you may think the dates do not make them antiques, but then it depends on how old you are, such as the one for VK9XK at Port Moresby, Papua Territiory. The date on that on goes back to 27 August 1957. I was still trying to finish my degree in electrical engineering at Clarkson at that time. Papua Territory and the Territory of New Guinea later formed the entity now know as Papua New Guinea (P29).


PORT MORESBY, PAPUA TERRITORY

VK9XK

Q.S.O. No. Q.S.L.? S. R. COLESTON, Op.

Now here is an interesting date, 23 June 1962. Bob worked VR5AA in Nuku'alofa, Tonga, at 0327 UTC. That would have been a Friday evening local time on this side of the world and your DX editor was busy preparing to get


Nuku'alofa Tonga

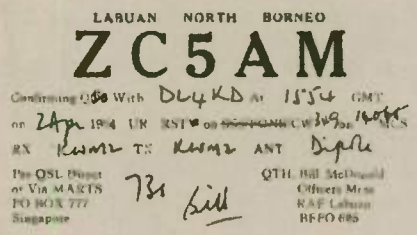
VR5AA

W4CKD 23-6-

0327 14 579

R390A

married the following day. So, we can call this one an antique!



My oldest child was approaching her first birthday when Bob, then signing with DL4KD, worked ZC5AM on North Borneo. This entity, British North Borneo, joined the deleted list in 1963. And, as for my daughter, she is the one who is an Oregon State Trooper up at Newport. Drive carefully, or else.

QSL information

Jim Smith, VK9JS, reports that he is set up to accept QSL cards for his recent A51JS operation via the bureau. Jim says that they must be sent to A52JS via MØBJI at the RSGB QSL Bureau only. No other route will work — or at least he cannot guarantee it.

This gets the cards to a QSL Bureau point. He has made specific arrangements with the RSGB QSL Bureau to accept these A52JS QSL cards. Response to these QSL cards will take some time and is not an immediate priority. Of course, Jim will respond to QSL cards sent direct.

Rodrigo Vargas, HK3LT, has the logs for the 1981/1982 CW operation of HT1CTJ and would be pleased to confirm those contacts for anyone needing a card. Send your requests to: Rodrigo Vargas E., P.O. Box 34477, Bogota, COLOMBIA.

Thanks go to the following contributors for this month's column: HB9FMU, HK3LT, XE2AUB, K2MFY, W4CKD, N4XP, W9VA, KØBCN, Western Washington DX Club (WAØRJY), Northern Arizona DX Association (W7YS), WebCluster (OH2AQ), *425 DX News* (I1JQJ,), *The OPDX Bulletin* (KB8NW), DX-News (NJDXA), The Low Band Monitor (KØCS), *The Daily DX* (W3UR), and QRZ DX (N4AA).

In the RSGB IOTA Most Wanted List, believe it or not, Long Island (NA-026), is on the list! Yes, it is that island that includes a large portion of the City of New York, and Nassau and Suffolk counties. With a very large portion of the Amateur population of that state residing on that island, how is it IOTA chasers have missed it? The listing shows that 51.20 percent have credit for that one. I would think that all IOTA chasers would have this one. Check your cards! Don't overlook Kings and Queens counties. Staten Island counts too, but will soon be deleted from the group. 73 de John N6JM.

QSL Managers

3D2CQ	N6PEQ
3V8CB	DL1BDF
3W2KYU	JH8KYU
3Z7FBQ	SP7FBQ
4L1BR	KE1HZ
4L4KW	KE1HZ
4N1EA	YU1RE
4X/DL8ABO/p	DL8ABO
4X/JM1LJS	JL2XUN
5B4/GØDEZ	GØDEZ
5R8GR	DK6ST
5W1SA	JH7OHF
6W/DK8YY	DH7WW
7Q7HB	GØIAS
9M6AAC	N2OO
AX3OLY	VK3WI
BW2ØØØ	JP1RIW
C99AT	pirate
CT3AS	DJ8FW
CU4ARG	CU3AN
DS2AGH/4	DS2AGH
DU1/DK3GI	DL2MY
E2ØHHK	E21EIC
E2ØREX	E21EIC
E4/JM1LJS	JL2XUN
EA1GA/p	EA1GA
EA9/EA7JB/p	EA9PB
ED1SAC	EC1AHS
ED1URB	EA1CCW
ED1VIG	bureau
ED3IM (22-23.7)	EA3CKX
ED3IM (iotatest)	ON7LX
EJ5J	EI3IG
EJ7M	EI6HB
EL2JR	KB3U
EM1KY	UT7UA
EM1U	UT7UA
EM5ØØE	UR4EYN
EP2MKO	UA6HCW
EY8MM	K1BV
FR/F6KDF/T	F6KDF
FY1DW	FY5KE
GD3CWI/p	G3CWI
GM5C	GMØDEQ
GX6YB	G3SWH
HBØ/IN3IKF/p	IN3IKF
HBØ/N7OV	IK3VIA
HBØ/PI4TUE	PI4TUE
HFØPOL	SP3WVL
HI3/KB2MS	KB2MS
HLØC/4	HLØC
HSØAC	HSØ/G3NOM
HS2ZIU	E21EIC
HS4BPQ	E21EIC
J28EW	F5LDY
J28EX	F5THR
J3/G3TBK	G3TBK
J43J	DJ5JH
J43U	DJ8UY
J6/OH1XX	OH1XX
JT1FBB	W9JOE
JW/OK2PBM	OK2PBM
K1HP/KHØ	JE2EHP
K2L	WB2YQH
KC4/HFØPOL	SP3WVL
KC4AAG	W1LU
KH6ND/KH5	K4TSJ
KL7AK	N6AWD
LU7EE	EA5RD
OHØBVI	OH2BVI
P29CC	K1WY
PJ4G	WA2NHA
PR5YL	PP5LL
PV5IOTA	PP5LL
PV5L	PP5LL
PY1VOY/PYØF	PY1LVF
R1ANF	RK1PWA
R1ANZ	RU1ZC
RKØFWL/p	RKØFWL
RKØYWA/p	RAØWA
S79WB	DL4HBB
SNØHQ	SP2PI
SVØIR	DL2FDF
SV5/PA1KW	PA1KW
SV8/F2VX	F2VX
SV8/HAØHW/p	HAØHW
SV8/HAØHW/p	HAØHW
SV8/IT9YRE/p	IT9YRE
SV9/PA3GCV	PA3GCV
SY2S	SV2DCD
SY2T	SV2CWY
T88BX	JA6BX
T88VG	JR6NVG
TA3AX	DL7JAK
TA3BT	OE2GRP
TF/G3SQX	G3SQX
TK/ON4IPA	ON6ZV
TK/ON6ZV	ON6ZV
UA1PBP/p	RK1PWA
UE3MYI	UA3XAC
UE4NNN	RW4NM
UU7J/p	UU8JK
UYØMF/5A	UX5MZ
V26EA	PA5ET
V26ET	PA5ET
V26FM	PA5ET
V26WP	PA5ET
V63KP	K8AA
VD1VIK	VO1UL
VK9XY	DH1SGS
VP2V/IZ1DLV	IZ1DLV
VQ9NL	W4NML
VQ9QM	W4QM
W1VX/KHØ	JF1OCQ
YBØDPO	K5ZE
YCØYAD	K5ZE
YN9HAU	HR1RMG
YU3ØNW	YU1NW
ZF2JM	KD3YK
ZF2SC	KA9P
ZK1PEQ	N6PEQ
ZL8RI	ZL4HU
ZL9CI	ZL4HU

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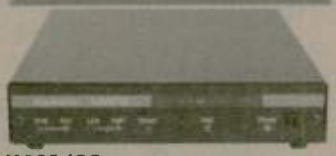

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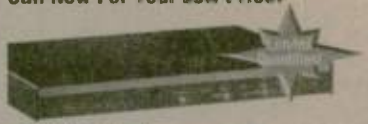

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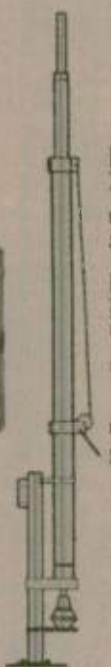

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Jerry Wellman, W7SAR

Dealing with the media

I get pretty impassioned with regard to freedom of information and dealing with the media. My background includes over 30 years' involvement with radio, television, wire services, and newspaper reporting. I've written, edited, made decisions, stopped the presses, written software programs, installed systems, covered breaking news, and enjoyed every minute of it. From the "other" side, I've served as a public information officer for all sorts of search missions and emergency incidents or public service events such as national conventions.

When the Concorde crashed in France recently I turned to television to get information. As fires rage around the west, I listen to live broadcasts and read newspaper accounts. When something happens, it's the media we turn to for information. Usually the information is correct, sometimes a reporter gets it wrong. I've fielded calls from people complaining that a story was incorrect. We've got the make or model of the aircraft wrong. A last name was misspelled. It didn't happen the way it was reported. I try not to make excuses and every responsible media outlet I've worked with has a strong policy of correcting mistakes.

When news breaks I would bet you, too, turn to the media for information. The public (that's us) has an insatiable desire to feed on events. We want details. We want it now. The media walks a fine line between deadlines, responsible reporting, freedom of the press, and the public desire to know. The public service folks (that's us too) also have a job to do. First and foremost is the service to others and the protection of human life. There is also a responsibility to ensure information is released. Relatives and friends want to know if their loved ones are safe. If there is a threat (hazardous materials, weather, or fire) they need to know to evacuate or prepare to assist those evacuating. We want to know if someone was rescued and want to mourn with those who are saddened.

If there's a search mission ongoing in a nearby state or involving friends from another agency, I like to know what's going on if only to add my prayers and thoughts to their efforts. If we all called the incident command post for information in these cases, they would be distracted from their primary focus. Media reports fill the gap.

So what's your group's policy on media relations? Some groups train their people to simply say "no comment." Other groups have less restrictive policies. Often communicators are out in the public and people will stop and ask for information. What do you tell them?

Let me give you some of my thoughts on how to deal with the media. First, most reporters are responsible and will seek to accurately report the news. They often compete with other reporters to get unique details reported first. If you have an on-going association with a reporter, you have greater assurance that details will be correct because of the level of trust that exists.

Often Amateur Radio operators respond in support of an agency. As you develop your working relationship with the agency, be up front and tell them you EXPECT that media people will be asking questions. Here's where the agency either shines or doesn't. If they're media savvy, they'll have a public information officer immediately available to answer questions and the PIO will issue regular updates both to the media and to the emergency responders. If the PIO is doing the job correctly, you will know what has been released and what is fact.

If, on the other hand, the agency has no PIO, you're in a bind. This usually means the police chief, mayor, or the incident commander wants to control what is said and will be so busy trying to run everything, the media will be beating on every door trying to get information. Now you're put in a spot because some reporter is observing you and draws conclusions (right or wrong) about what's going on. You are faced with the problem of saying what you're doing, or giving "no comment."

Let's pretend you're standing outside of a hospital augmenting communications from the scene of a hazardous materials evacuation. You're assigned to relay messages from the Red Cross to the hospital's emergency room. There's no PIO handling media inquiries and you're just standing there on your own. A TV crew rushes up to you because you're carrying a radio and have an official looking jacket and an ID card hanging from your neck. The reporter thrusts a microphone in your face and says "what's going on?"

You could turn around and run, or say "no comment," but what would be wrong with saying: "Hello. My name is Nancy Smith and I'm a volunteer Amateur Radio operator. I've been asked to relay messages between the Red Cross and the hospital. We have another Amateur Radio operator with the Red Cross evacuation center and we'll be here until the emergency is over or we are released by the Red Cross. I'm unable to pass along the content of any messages I've relayed because they're between the Red Cross and the hospital and they would have to comment. I am able to talk to you about Amateur Radio, our local ARES group, or how our group responds to these emergencies."

Have you said anything false? Have you released any information harmful? No. On the other hand, you've come across as polite, sincere, and that Amateur Radio is being of service to the Red Cross and the hospital. If the reporter persists, you can simply say you're unable to provide any other details because you have none you could pass along. You can make points with agencies you serve by letting the reporter know the messages you pass are not owned by you and that it would be improper to reveal the content. You could explain how rude it would be to open other people's mail and share the content with all the neighbors. Feelings could be hurt and people not knowing any of the background of the contents would make faulty assumptions.

We're not there to make enemies and there are common sense things to do. If you're in a location where the media might find you (and always expect it) be sure to ask your supervisor what might be said. Let's try to avoid the absurd. I recall a volunteer at a base camp being interviewed in a snow storm. The reporter asked if the weather was hampering the response. Now picture this. They're in inches of fresh snow. It's falling fast. It's dark and cold. The volunteer simply looked at the reporter and finally said "no comment." How much confidence does that impart that this volunteer is doing all he could do for the downed pilot.

What would have been lost if he had said: "These are conditions that no one should be out in unprepared. Our group has extensive training and experience in cold weather searches and we're doing all we can to get to the scene." The volunteer could have used the opportunity to discuss winter preparedness and hypothermia. It would have come across as a person who was very well trained in cold weather operations.

In a recent article in *9-1-1 Magazine* discussed the response at Texas A&M when the bonfire collapsed. One paragraph caught my interest that said one public safety dispatch trainee was "assigned to monitor local news reports and keep us updated on what was being said and what was going on."

It's good to monitor what's being said and be ready to correct information or even pass along information for the safety of those involved. I would always advocate a media relationship of polite respect and trust. Just as with members of your group, there are bad apples in every group or profession. If you're ready and prepared for the media, you can make it a positive interview.

The debate rages

An emergency communications internet discussion group has been debating "standard" power connectors — again. Folks, find what works in your local area and go with it! Every "standard" has pros and cons. The primary consideration is what works best for your group and the groups you interact with.

I just love it when someone says "what about" reverse polarity? "What about" current capacity?" Do you realize that you can "what about" any project into the ground? A motto sits on my desk: Make it idiot proof and someone will make a better idiot.

What sage advice. Any "standard" connector can be wired wrong. Some idiot has probably replaced the amp fuse with a 20 amp fuse. Someone might have mislabeled the antenna coax. The 100-watt speaker is probably only an 8-watt speaker. People, wake up. Things go wrong! That's why you're a skilled and trained operator. You don't assume anything. You've checked the polarity in the EOC before you hooked up your $1,000 radio. You've tested the SWR before you transmitted. You're a licensed, trained individual. That's why you're called to help.

A portable antenna

Just when I thought I was prepared and had adequate antennae for the various tasks I might encounter, someone comes along with a better idea. Bill Greene, KF6LUC, is a member of the Mono County (California) Search and Rescue Team and he's got a great idea for a portable VHF antenna. I was so excited that I purchased the materials and can attest that it's a great antenna, easy to build and very effective.

He calls it a portable backpack antenna although I intend to also use it on a bike and perhaps on an all-terrain vehicle. This antenna is light and easy to use. It's also durable for field use! Bill gave me his permission to tell you about his creation. The following is taken from materials he sent me. If you have questions, please e-mail me or Bill (wlgreene@qnet.com).

This antenna is made from a Larson OM-150 half-wave antenna. These are often marketed to boat owners as they are "flange" mounted, i.e. affixed with three screws through the base. It is not the more popular "NMO" mount, so when you order one, be sure you get the correct one. The antenna can be tuned for amateur or Public Safety use. The whip can be taken off for ease of transit in vehicles or by air.

Here's what you need: Larson OM-150, a PVC pipe reducer (2 inches by 3/4 inches), a section of 3/4-inch PVC pipe, 25 ferrite beads, and a BNC connector. To build the antenna, you FIRST ream out the small side of the PVC reducer.

What you're doing is cutting out the threads and making it large enough for the PVC pipe to fit into the reducer the "wrong way". Then drill a hole in the PVC pipe for the coax to come out of. Mount the antenna to the PVC reducer with three screws. I then put the 25 ferrite beads on the coax at the base of the antenna, put heat shrink over the beads and then put the pipe into the reamed-out reducer, threading the coax out through the hole I drilled in the pipe. You can then attach the antenna to your pack or bike with hose clamps, tape, or even a cable tie.

Bill recommended not gluing the pipe and leaving the beads on the outside of the pipe. I thought they might get damaged so I put them inside and glued the pipe to the reducer. I also considered putting some sealant into the pipe to keep the coax in place and perhaps reduce strain should I accidentally tug on the coax. Put the BNC connector on the cable and then tune the whip with an SWR meter for your operating frequency.

As assembled this new portable antenna is a perfect solution for getting a stronger signal out in primitive conditions — ***Photo by Bill Greene, KF6LUC***

As Bill wrote, it's often impossible to increase the power output of a portable radio, but you can improve communications efficiency with an antenna other than the standard rubber duck. This is a great solution for a field team as it gives you better gain for your walkie talkie under all types of field demands.

The ferrite beads are critical to prevent coupling of the radio signal to the coax shielding which would affect the SWR and the antenna's efficiency. You need ALL 25 of them! I called around locally and found the OM-150 with no problem. The pipe materials were quickly obtained at the local hardware store and the ferrite beads came from "The WireMan Inc."

You can reach this company at 261 Pittman Road, Landrum, SC 29356 or call them at (864) 895-4195. You'll want to order ferrite bead number 913 and they sell for 20 cents each in quantities of 50. I ordered enough to make two antennas.

The beads fit over the coax supplied with the OM-150 with no problem and Bill suggests making up an extra whip should you need it for amateur and Public Safety frequencies. One note, do NOT use the whip cutting chart as supplied with the antenna. Use an SWR meter. Bill suggested that the beads affect the resonant length and says to cut the whip gradually using a meter. The one I built works great in the back yard and I will use it on the next field trip. I believe I will paint mine to blend in with my backpack, but that shouldn't affect it's operation.

Should you need better instructions or have problems, send me e-mail and I'll send you Bill's instruction sheet and photos. If all else fails, send me an SASE and I'll make you a hard copy as a last resort. Thanks Bill for a great idea!!

Until next month, best wishes from a hot and dry Salt Lake City.

— Jerry Wellman, W7SAR, can be reached at: P.O. Box 11445, Salt Lake City, UT 84147 or via e-mail: jw@desnews.com.

BASIC azimuthal equidistant maps

It's rare that an amateur doesn't want a map in his shack to give him some indication of where the rest of the world is. Most frequently the map will be a standard Rand-McNally Mercator projection, although occasionally a globe or one of those fancy "Great Circle" maps will grace the shack.

My father preferred using a globe, and a dowel rod and string. With the right length wooden rod he could locate the OSCAR series satellites back when he was active in space communications. Pop quiz — what is OSCAR the acronym for?

Personally, I like using the Mercator map, but it does have its limitations.

A Mercator map has its north-south lines (meridians of longitude) parallel to each other, and they are perpendicular to the east-west lines (parallels of latitude). Mapmaker Gerardus Mercator, in the 16th Century, chose the design as a simple way to transpose the features of a spherical Earth onto a flat piece of parchment. The technique is akin to placing a light in the center of the Earth and a cylinder of rolled-up paper around the planet, touching it only at the equator. The map is then made by tracing the land feature "shadows" cast by the light onto the paper.

Obviously, features near the equator are rather faithfully reproduced, while features toward the poles appear elongated and distorted. Nonetheless, this type of map is an easy way to reproduce a round globe on flat paper.

Mercator maps also distort directions. Over short distances the directions aren't too far off, but over really long distances the errors can be quite large.

India, for instance, appears to be east-southeast of the U.S. on a Mercator map, when actually it's due north when checked using a globe.

Some of you may remember that some time ago we ran a BASIC program that showed how to turn a Mercator map into a pseudo Great Circle map simply with a little pencil work. The program, in the September, 1991, issue of ***Worldradio***, showed how to determine and draw accurate directions on Mercator maps.

Actually, I liked the modified maps because with them you could also determine your direction from the DX station's point of view as well. While Persian Gulf states appear to be due east of the U.S. on the map, the modified map showed them to be more to the northeast, and that the U.S. was northwest of them. A look at a globe confirms these directions.

On a worldwide scale there is only one kind of map that shows directions as straight lines. It's called an Azimuthal-Equidistant map. It is the map you see in the ***Worldradio*** magazine logo.

Basically, an azimuthal-equidistant map places your QTH directly in its center with the rest of the world spread out relative to direction and distance from you.

For instance, if you locate Sydney, Australia, on the map, its direction is the straight line direction from the map's center. The direction can be determined by using a compass rose, or by extending the line to an azimuth ring around the edge of the map.

Realize, though, that directions are accurate from one location — the map's center coordinates. Directions and distances between any other points will be in error. This means that if you had an azimuthal-equidistant map with your New York City address at its center, and your company moved you to Tucson, Ariz., the map would no longer be accurate.

```
10 CLS:SCREEN9:RESTORE:PRINT "EQUIMAP.BAS,
   KD5DL, 10/00"
20 LINE (100,200)-(540,200): LINE (320,0)-(320,400)
30 PRINT "GREAT CIRCLES FROM XXXXXX"
40 PRINT: PI=3.1416: R=180/PI: CIRCLE (320,200),3
70 L1=XXX.XX : L2=XXX.XX : REM, SEE TEXT FOR
   VALUES
80 READ C,D: IF C=555 THEN W=1: GOTO 220
90 IF C=999 THEN END
100 E=(SIN(L1/R)*SIN(C/R))+(COS(L1/R)*COS(C/R)*COS((D-
   L2)/R))
110 E=60*(-ATN(E/SQR(1-E*E))+PI/2)*R
120 T=E/60: F=((SIN(C/R)-
   (SIN(L1/R)*COS(T/R)))/(SIN(T/R)*COS(L1/R)))
130 IF F>1 THEN F=1
140 IF F<-1 THEN F=-1
150 G=(-ATN(F/SQR(1-F*F))+PI/2)*R: E=E/60
160 IF L2-D<0 THEN G=360-G
170 IF L2-D>180 THEN G=360-G
180 M=E*SIN(G/R): N=-E*COS(G/R)
190 X=M+320: Y=N+200: IF W=0 THEN LINE - (X,Y)
200 IF W=1 THEN RETURN
210 GOTO 80
220 GOSUB 80: PRESET (X,Y): W=0: GOTO 80
300 DATA 555,555
310 DATA .....: REM, SEE TEXT ABOUT DATA ENTRY
   9999 DATA 999,999
```

Wouldn't it be nice to be able to change maps easily as you travel? This month's program lets you do just that, make your own azimuthal-equidistant maps centered on any location in the northern and western hemispheres. All you have to do is supply the coordinates in line 70 and the program does the rest.

The listing is for the routine that draws the map — you'll need to supply a separate data base. This is in keeping with my policy of running short and simple listings, *Worldradio*'s editor would probably not allow me space for the data lines as well. But, depending on how refined your database is, your map can show quite a lot of detail for such a simple listing.

You'll need to modify lines 30 and 70 to fit your particular location. In line 30 simply replace the Xs with the name of your community or your station call letters. In line 70 you need to enter your latitude following L1 and your longitude following L2.

Enter as positive decimal values. My QTH, for example, is at L1=34.56 and L2=97.99.

As to the DATA lines, it's easiest to start with an atlas and record the latitudes and longitudes for every ten to 50 miles along each country's coastlines and borders. These, too, are entered as decimal degrees, with a minus sign prefix if they are in the southern or eastern hemispheres.

Keep the beginning of line 300 as DATA 555,555 and add the numbers 555,555 wherever you come to the end of a country's trace. For example, when you trace Australia, you might start at Sydney, go completely around the country, and end at the same point you began with. At this point add "555,555" before moving on to the next land mass.

The "555,555" tells the program to stop drawing until the next set of coordinates is read into the program. If this isn't done, an annoying and confusing line would be drawn between isolated land masses, such as islands.

Your last set of DATA entries should be "999,999" to tell the computer that you're done.

For those of you who study my programs, you might notice I stole a number of lines from the listing we ran in February that drew radiation patterns for vertical antennas, and a few more lines came from that original 1991 map program. That's one of the beauties about BASIC programing — you can take routines from other programs and use them where you need them.

Unfortunately, BASIC may be out the "Windows" from now on. It seems that Microsoft is not bundling BASIC with its most popular software anymore, and if you want to use it you have to have a computer that runs an older version of Windows or DOS. This indicates to me that fewer people will be exposed to the power and simplicity of BASIC as time goes on.

I hate to see this happening. I am well aware that technology will keep moving on, but I hate to see BASIC being relegated to obsolescence after it's been such a good friend for many of us for more than 30 years.

But, since BASIC is going, I think I'll be going too.

The December issue will contain my last regular BASIC column. My plans are to reminisce a little about how the column was started, some of the challenges I faced over the years, and some of the things I learned along the way.

Quiz answer: OSCAR was an acronym for Orbital Satellite Carrying Amateur Radio.

Amateur "Hi"

Ever had a funny or strange experience with Amateur Radio, on or off the air? If so, type it up (or print neatly) and send it to us for consideration in our monthly AMATEUR "HI" contest. You could win a free year's subscription to ***Worldradio****!*

Shoulda used cable

Dennis Caldwell, KB7MZZ

It was a beautiful spring day, just right for taking down my tower and A3S beam. Bruce, N7SRX, now a silent key, had shown up at my rural, Columbia Falls home to help me lower my tower and dismantle my beam in preparation for moving to a new home. My tower, a 40' Rohn 25G had a hinged base, so lowering it would be a piece of cake.

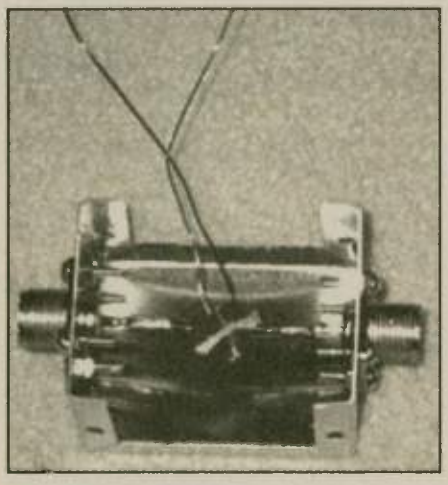
I installed a pulley on the edge of the deck cover just behind the tower. Not having the proper cable to attach to the tower, we found some rope that we were sure would work for the task at hand. With the rope through the pulley, Bruce attached one end to the tower while I attached the other end to the tow hook on the front of my Toyota pickup. We had set a wooden ladder out towards the spot where we could guide the tower down, and have it rest the end of the beam clearing the ground enough to take it off the tower and dismantle it. We had removed the one bolt necessary to lower the tower on it's hinges. I got in the pickup while Bruce gently pushed on the tower to get it started in the proper direction.

All was going well as the tower started on it's own momentum to go over whiled I inched my pickup forward, when all of a sudden, the rope snapped! The tower came crashing down, and as good luck would have it, landed directly on the ladder. We were extremely lucky in the placement of the ladder, but that did not save the day. The tower hit the ladder hard enough to bury the legs to the bottom rung, and unfortunately all of the elements had taken on a new, streamlined forward angle. The boom survived as did the tower and Bruce. We should have made the trip to town to purchase the necessary cable. All we could do was laugh about it and chalk it up to a lesson learned the hard way.

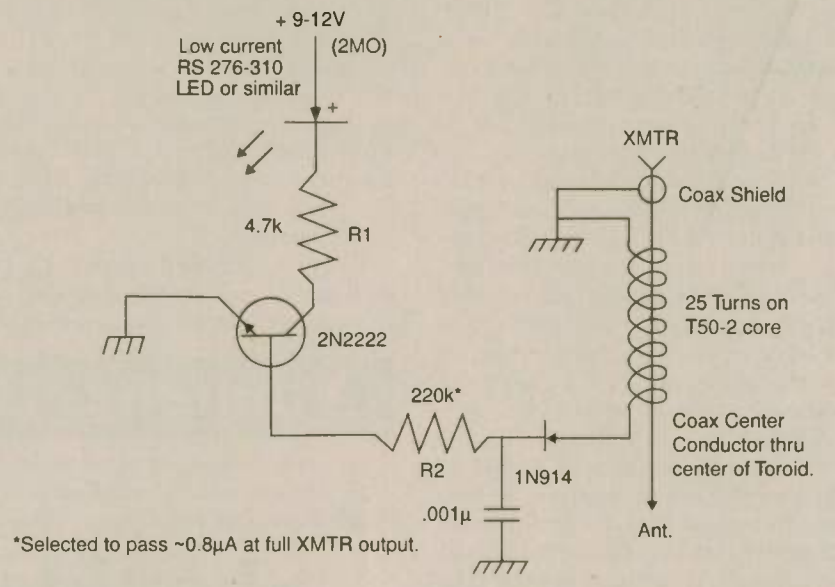
A really good QRP HF forward power indicator

Mike Greenfield, N9JIY

I recently built a little 40M QRP kit transmitter, and packaged it for portable operation. Soon I found it would NOT put power into a poor antenna feedline match. It was VERY picky! Further, I found a "good match" was something OTHER than 50 ohms. I didn't want to drag along my twin needle tuner. Besides, one watt RF output hardly moved the needles! What to do??



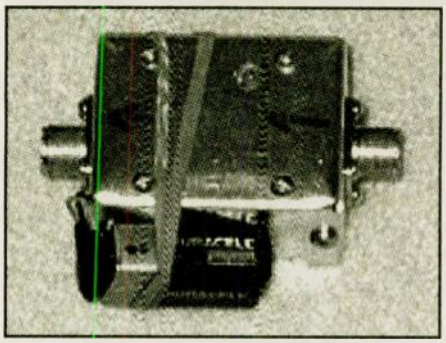
SO-239 connectors in place showing connections with no bends in the connecting wires.



This little device is the answer. It gives a simple go/no-go indication of transmitter power into the feedline. When the LED is bright I have power out. When it's dim/off, I don't. To build it, I used the usual tools, PLUS a little breadboard and some tweaking time.

I didn't worry about SWR because my rig wouldn't put power into a poor match anyway. If your rig WILL put watts into a poor match, this indicator isn't for you.

QRP output will drive the LED, because it's in a simple transistor circuit. I tweaked the circuit to barely lift the LED to full brightness at full transmitter power, and go dim/off at any less than this. My transmitter seems to put out about 1.5 watts. I think this circuit could be tweaked to operate with VERY low QRPp powers.



The cover in place and the 9V battery held in place with a rubber band.

Construction is simple. First, a current transformer, ...a wound T50-2 toroid, plus the coax center conductor circuit through the toroid hole. Second, a circuit board, ...an LED and 5 other parts wired ugly on a piece of perfboard. Third, a Radio Shack 276-235 aluminum box with a SO-239 coax connector mounted on each end, to hold it all together. Power is a 9V battery rubber banded on the outside of the box. No current flows when the indicator isn't being used, so no on/off switch is needed.

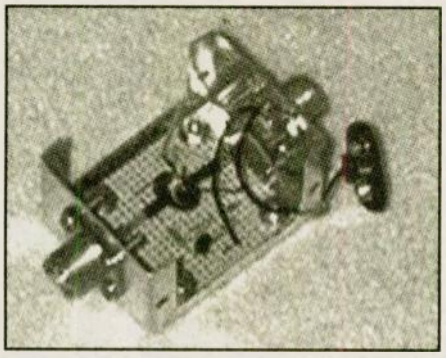
Layout of the box and current transformer is shown in Photo 1. Attach a SO-239 at each end of the box; above center so you have room to slip the circuit board under it.

Wind 25 turns of magnet wire evenly on a T50-2 core. 22ga wire or smaller. Paint the wound toroid with fingernail polish to keep the winding in place. Square up the box with scrap wire wrapped around it. Cut a piece of insulated copper house wire JUST the right length to fit between the two SO-239 centers with NO bend. Run it through the toroid center hole and solder it between the SO-239 centers as shown. Anchor the toroid at the center of the wire with a small plastic wire tie or similar. The toroid doesn't have to be at a right angle to the house wire.

Now the tweeking. The toroid winding lead that gives + current when RF goes through the center wire TOWARD the antenna has to be found. So, mark the SO-239s "ANT" and "XMTR". It doesn't YET make any difference which is which.

Breadboard the circuit shown in the schematic. Then run just a watt or two of RF from a known 50 ohm output impedence transmitter into "XMTR" through the box into a 50 ohm dummy load at "ANT". Find the toroid winding lead that when connected to the IN914 diode lights the LED most brightly. Mark it and never forget which one it is.

The value of R2 depends on the frequency and full QRP power output of the rig you want to use the indicator with. So, now attach this rig to the XMTR end of the box. At the ANT end of the box attach an antenna tuner with a dummy load at the output side. Key up your rig. Fiddle with the antenna tuner til the LED is brightest. You HAVE to be sure your rig is putting out full power. Once you're sure about full power, try some R2 values LESS than 220k ohm to see if the LED gets any brighter. Then keep increasing R2 values until you get one that just barely begins to dim the LED. A single 220k ohm resistor happened to work great for me. You may have to combine several resistors to get it just right. This is YOUR R2. We don't use a variable resistor because this indicator is a measuring tool that we want to stay constant when OTHER station variables change!



The finished product minus cover and battery

The circuit board is a piece of perfboard 1-3/4 inch square. Drill holes in the corners to take screws that will anchor the board in the box. Drill holes in the box to match these holes. Don't nick your toroid with the drill bit.

Wire your perfboard per the schematic. THE LED IS MOUNTED ON THE BACK OF THE BOARD. Stub three wires on the board to attach toroid, power and ground leads. A solder lug under a SO-239 mounting screw makes connection to coax shield and ground easy. Drill a hole in your box to fit the location of the LED.

Mount the board face up in the bottom of the box. Use spacers to keep the LED from sticking out too far, and to keep the ugly wiring from shorting to the box. The finished assembly is shown in photo 3.

Public service and HF mobiles

I'm still receiving e-mails about mobile noise. Before we get to that let's talk about public service communications using HF mobile. Before repeaters, HF portable and mobile stations were commonly used to cover such events, especially long ones. We used 75 Meters for a 200 mile boat race up the Sacramento River from Stockton to Redding with good results. The first Walkathon in Sacramento had Ham communications using 75-meter mobiles. Now events like these are handled over repeaters.

HF can still be valuable. In mid-September, as you are receiving this issue, the Sam's Radio Hams will again be providing communications for the Whitney Classic Endurance Bicycle Ride from Badwater in Death Valley, to Mt. Whitney Portal, 136 miles away. Bike rides are not that uncommon, but this one is in almost a straight line, rather than the usual loop. The route passes over two 5,000 foot passes and all three climbs total 14,200 feet. Also complicating communications for this event is a shortage of suitable repeaters. This is one of the most desolate, isolated stretches of highway in the country.

The Sam's Radio Hams operators will be stationed at the nine rest stops along the course and at the ride headquarters. The stops are all selected for their value to the riders, not for radio communications. Even so, 2-meter FM simplex has worked between many stops. But for the remaining "impossible" gaps, they have turned to 160 Meters. This band has the ability to cover most of the route. Since everyone isn't on 160 Meters, it hasn't replaced 2 Meters, but it makes the impossible, possible. I hope to see this first hand, and report the details in the next column in two months.

I made some favorable comments last time about our early Technician Class Hams upgrading to General Class under the new rules. One of the comfort factors in their getting on HF mobile is the mobile antenna. There is a major difference between driving with a 1/4 or 5/8 wave 2-meter mobile antenna, or with a bugcatcher. I'm guessing that there will be some interest in more compact HF mobile antennas, despite the trade-offs. One such antenna is the Yaesu ATAS-100, which motor tunes 40 through 6 Meters when used with their FT-100 or FT-847 transceivers. (It is also used on 2 Meters and 70 cm.) Am-Com Inc., who also sells the ClearSpeech noise canceling speaker, now has a controller that allows the ATAS-100 to be used with any transceiver. Yaesu stopped at 40 Meters, avoiding the high losses inevitable at 75 Meters with this antenna's small size. If you have this antenna, let us know something about it.

My friend Vern Dawson, K6RRC, and Verne Wright, W6MMA, are building some interesting compact QRP and mobile antennas for sale. They have manually tuned antennas that cover 40-10 Meters, shown at http://www.superantennas.com. Take a look.

A more familiar compact antenna is the single band fiberglass stick antenna available from several different sources. This type of antenna is acceptable on 40 Meters and quite good on higher bands. All of the elitist things that you may have heard about mobile antennas are true, on 75 Meters. But things loosen up as you go to progressively higher bands. If it comes down to not getting on the air at all, use what you have.

Noise!

When the August column hit the mailboxes, I received a large amount of e-mail about Ford mobile noise. Many asked for the earlier data. Here is a summary on Ford fuel pump noise. You or your dealer should obtain Ford Technical Service Bulletin TSB 99-12-9. Have your dealer install the filter specified. Several reported having this filter installed with acceptable to excellent results. Any dissatisfaction was frequently due to having quieted the fuel pump enough to hear other noises! An enhancement is claimed for this fix if toroids are installed on the filter's leads as discussed in this column in ***Worldradio*** for August 2000. If you have questions about the service bulletin, or any other Ford RFI and noise problems, contact Arnie Nielson at Ford, 313/845-7565.

There was one interesting new slant on noise in the e-mail this month. Mike Zyara, AD1OS, reported that his 97 GMC Suburban had a noise problem. He found a Tech Service Bulletin, 569 603A JAN97, "Electrical Interference in Mobile Radio" that talked about reprograming the engine control computer to "reduce noise in two-way-radios." His dealer did it for him, and it worked. Unfortunately if the battery is disconnected or changed, the reprograming is lost! This fix is reported to be only for 1997 and newer model years.

Pete Breedlow, NN9K, asked for recommendations for wire for a new ignition harness for his 97 Dodge Caravan. By pure coincidence, Walt Spector, W6WS, had recommended Magnecor KV85/CN25 plug wires to me just the day before. See http://www.magnecor.com for what Walt calls a very interesting web site.

Let me hear from you on any HF mobile subject! Send e-mail to lcobb@compuserve.com, or write: Les Cobb, 4114 Horgan Way, Sacramento CA 95821. More at http://home.pacbell.net/lcobb/.

Visit Your Local RADIO CLUB

ALASKA

South Central Radio Club. 8023 E. 11th Ct., Anchorage, AK 99504. Meets 2nd Fri./monthly, 7 p.m., UAA Business Ed. Bldg., Rm. 220. KL7CC, (907) 338-0662. Info: club rptr 146.97(-) PL 103.5Hz 10/00

ARIZONA

Arizona Repeater Association. P.O. Box 35758, Phoenix, AZ 85069-5758. Operates 20 VHF & UHF rptrs. in AZ. Meets 4th Thurs./monthly, 7:30 p.m., APS Shure Building, 2124 W. Cheryl, Phoenix, AZ. Info:www.goodnet.com/indirect/www/ara 12/00

Cochise Amateur Radio Assn., (CARA). Meets 1st Mon./monthly, 7:30 p.m. at club facility on Moson Rd., Sierra Vista, AZ. K7RDG/R 146.76(-) rptr. PL162.2. 5/01

Old Pueblo Radio Club, (OPRC). P.O. Box 42601, Tucson, AZ 85733. Meets 2nd Wed./monthly, 7:15 p.m., Tucson Med. Cntr., Grant & Beverly St. in the AZ Rm. of the Volunteer's Bldg. (1st bldg. on the left going north off Grant). 2/01

CALIFORNIA

Amador County Amateur Radio Club. P.O. Box 1094, Pine Grove, CA 95665. Meets 1st Thurs./monthly, 7:30 p.m., Jackson Sr. Cntr., 229 New York Ranch Rd., Jackson, CA. Info: 146.835(-). 5/01

Amateur Radio Club of Anderson, (ARCA). Meets 2nd Thurs./monthly, 7:30 p.m., VFW #9650, 3210 W. Center St., Anderson, CA. Net every Tues., 7:30 p.m. on 146.640 freq. Website: www.snowcrest.net/bgorski/index.html 2/01

Clairemont Rpt. Assoc. Meets bi-monthly brkfst mtg, 3rd Sat./odd no. months, Westminster, CA. Info: send SASE to P.O. Box 7675 Huntington Bch, CA 92615 or W6UTE in Call Bk. Net ea. Tue., 7 p.m. 145.220(-)PL 103.5 in So. CA 3/01

Coachella Valley ARC. Box 11092, Palm Desert, CA 92255-1092. Meets 2nd Wed./monthly, 6:30 p.m., Portola Com. Cntr., 45480 Portola, Palm Desert. Info: Bill Dews, (760) 346-8611. Net Thurs. 7 p.m. 146.025(+) PL 107.2. 5/01

Contra Costa Communications Club, Inc., WD6EZC/R. P.O. Box 20661, El Sobrante, CA 94820-0661. Meets 2nd Sun./monthly (except May & Dec.), 08:00, Denny's, El Cerrito, CA 145.110 PL 82.5 Info: S. Clark, KB6SEI, (510) 724-0158. 2/01

Cupertino ARES (CARES). Meets 1st Thurs./monthly, 7:30 p.m., Cupertino City Hall, CA. Net ea. Tues. 7:45 p.m. on 147.57 simplex. EC - Jim Oberhofer, KN6PE. www.zoy.net/CARES 6/01

Downey Amateur Radio Club Inc., W6TOI. Meets 1st Thurs./monthly, 7:30 p.m., So. Middle Sch. cafetorium, 12500 S. Birchdale, Downey, CA. VHF net W6GNS rptr. 146.175(+) Thurs.,7:30 p.m. http://www.downeyarc.org. Info L. Vaughn, kd6nzw at kd6nzw@downeyarc.org 6/01

East Bay Amateur Radio Club, Inc. Meets 2nd Fri./monthly, 7:30 p.m., Albany Sr. Cntr., 846 Masonic Ave., Albany, CA. Info: S. Primbsch, (510) 741-8227. 145.11(-) MHz. 9/01

El Dorado County Amateur Radio Club. P.O. Box 451, Placerville, CA 95667. Meets 4th Tues./monthly, 7:15 p.m., Federated Church, 1031 Thompson Way, Placerville. Web: hhp://edcarc.tripod.com. Net: Thurs., 7:30 p.m. 147.825(-) PL 82.5 6/01

Fresno Amateur Radio Club. Meets 2nd Fri./monthly, 7:30 p.m., Ernie Pyle School, 4140 N. Augusta, Fresno, CA. 146.94(-) 223.94(-). 11/00

Golden Empire Amateur Radio Society, (VEC). P.O. Box 508, Chico, CA 95927. Club call W6RHC, rptr. 146.85(-). Meets: 3rd Fri./monthly, 7:30 p.m. at 345 Cherry St. (Library Rm.), Chico. 5/01

Golden Triangle Amateur Radio Club. P.O. Box 1335, Wildomar, CA 92595. Meets 4th Mon./monthly, 7 p.m., Beverly Health Care, 24100 Monroe Ave., Murrieta, CA 92562. Rptr: W6GTR 146.805(-) PL 100. Info: H. Wijma, AC6VN, (909) 693-2383. E-mail: ac6vn@cs.com. Web: http://www.qsl.net/gtarc 9/01

Livermore Amateur Radio Klub, (LARK). Meets 3rd Sat./monthly, 9:30 a.m., City Council Chamber, 3575 Pacific Ave., Livermore, CA. Net Mon. 1900 on 147.12(+). Info: LARK Sec., P.O. Box 3190, Livermore, CA 94551-3190. (925) 373-1386. 2/01

Los Banos Amateur Radio Club. Meets 2nd Sat./monthly, 7 p.m., Los Banos Police Admin. Annex Bldg., 535 J St. Info: M. Germino, AD6AA, (209) 826-0903, E-mail: AD6AA@arrl.net. Net 147.060(+) PL 107.2 every Thur. 7 p.m. Rpt. KB6NMP 147.06(+) PL 107.2 & 444.00(+) PL 241.8. http://www.qsl.net/lbarc/ 6/01

Motorcycling Amateur Radio Club. Meets 2nd Sat./monthly, 8 a.m., Lake View Cafe, 2099 E. Orangethorpe, Placentia, CA, 91 Fwy/Lakeview. Info: R. Davis, KD6FHN, (949) 551-1036 or (949) 551-2010. 5/01

Mount Diablo Amateur Radio Club. P.O. Box 23222, Pleasant Hill, CA 94523. Meets 3rd Fri./monthly, 7:30 p.m., Our Savior's Lutheran Ch., 1035 Carol Ln, Lafayette, CA. Net Thurs. 7:30 p.m. on 147.06(+) PL 100Hz. Info: (510) 932-6125. 8/01

North Hills Radio Club. Meets 2nd Tue./monthly, 7:30 p.m., SMUD Bldg., Don Julio & Elkhorn, Sacramento, CA. Nets 8 p.m. Tue., (except 2nd Tue.) & Thur., 145.190(-) PL 162.2 Hz. Info: B. Griffin, (916) 729-7117. E-mail: dixdood@aol.com or nhrc@k6is.org 4/01

Orange County Amateur Radio Club. Meets 3rd Fri./monthly, 7:30 p.m., Orange County Red Cross, 601 N. Golden Circle, Santa Ana, CA. Talk-in 146.550 (S). Contact Parry Hoffman, K6LDC, (714) 636-4345 WWW.W6ZE.ORG 2/01

Poinsettia ARC. Meets 1st Thurs./monthly, 7:30 p.m., First Christian Ch., Telegraph Rd. & Teloma Dr., Ventura, CA. Info: J. Casper, N6PIQ, (805) 649-1445. 6/01

Redwood Empire DX Assoc., W6KB. P.O. Box 455, Santa Rosa, CA 95402. (707) 544-4944. DX & contest club. Dinner mtg. 3rd Wed./monthly, 6:30 p.m., Carrows Rest., Hwy 101 & E. Washington, Petaluma. www.redxa.com 12/00

River City A.R.C.S. Meets 1st Tues./monthly, 7:30 p.m., SMUD Bldg., Don Julio at Elkhorn, Sacramento, CA. License classes offered. Info: (916) 492-6115.10/00

Sacramento ARC. Meets 2nd Wed./monthly, 7 p.m. Sac. Blood Ctr., 32nd St. & Stockton Blvd., Sacramento, CA. Info net, noon on rptr. W6AK/R 146.91(-). T. Preston, KC6EO, (916) 722-9358 or L. Ballinger, WA6EQQ, (916) 393-4775. 4/01

Sacramento "Old Timers" Amateur Radio Society and Sacramento Valley Chapter #169 QCWA (Quarter Century Wireless Assn.). Meets 2nd Wed./monthly, 8 a.m., Lyon's Rest., 1000 Howe Ave., Sacto. CA. Info: Paul Wolf, W6RLP (916)489-8112. 12/00

Shasta Cascade Amateur Radio Society, (SCARS). P.O. Box 493549, Redding, CA 96003. Meets: 3rd Wed./monthly (Sep-May), 7:30 p.m. at the C.D.F. Conf. Rm. Grape St., near Parkview Ave., Redding, CA. Net 146.64, Wed., 8 p.m. 3/01

Sierra Foothills ARC. P.O. Box 1005, Newcastle, CA 95658. Meets 2nd Fri./monthly, 7:30 p.m., Auburn Library (Beecher Rm.), 350 Nevada St. Thurs. nets 7:30 p.m. 145.430(-) PL 94.8. 6/01

Sonoma County Radio Amateurs, Inc. W6LFJ. P.O. Box 116, Santa Rosa, CA 95402, (707) 579-9608. Meets 1st Wed./monthly, 7:30 p.m., Agilent Tech., 1400 Fountain Grove Pkwy , Santa Rosa. Net ea. Tues., 7 p.m. W6SON. Rptr. 146.73(-) PL 88.5. www.cds1.net/scra 12/00

South Bay ARC. P.O. Box 536, Torrance, CA 90508 Meets 3rd Thurs./monthly, 7:30 p.m., Torrance Memorial Hosp., 3330 Lomita Blvd., Torrance, CA. Talk-in on WB6MYD rpt. 244.38(-). Info: (310) 328-0817. 8/01

Southern California Six Meter Club. P.O. Box 10441, Fullerton, CA 92635. USB Net Tue., 8:00p.m., 50.150. FM Rpt. Net Thurs., 7:30 p.m., 52.86/52.36 tx. FM Smplx, call freq. 50.300. Net Sun., 10 a.m. 50.40. 12/00

Stanislaus Amateur Radio Assoc., Inc. (SARA). P.O. Box 4601, Modesto, CA 95352. Meets 3rd Tues./monthly, 7:30 p.m., NW Modesto Police Station, 2005 Evergreen, Ste. 600. Net 1.2+4 Tues. 7:30 p.m. 145.390(-) PL 136.5 2/01

Tehachapi-Southern Sierra ARS. Meets 2nd Thurs./monthly, 7 p.m., except July, 125 East F St., Tehachapi, CA (Veteran's Hall). Info: KD6KMN, (661) 822-5995. www.ssars. net, 147.06(+), 224.42(-) PL 156.7. Pkt 145. 090(S) connect to W6PVG-7. ARES nets 7 p.m. 147.51(S) Mon. 1/01

Trinity County ARC. P.O. Box 2283, Weaverville, CA 96093. Meets 2nd Wed./monthly, County Sch. Adm. Bldg., Weaverville, 7:30 p.m. Rptrs. WA6BXN 146.73(-) PL 85.4, W6HOR 146.925(-) PL 85.4. http://www.tcoe.trinity.k12.ca.us/~tcarc 2/01

United Radio Amateur Club, K6AA. L.A. Maritime Museum, Berth 84, Foot of 6th, San Pedro, CA 90731. Meets 3rd Fri./monthly (except Dec.), 7:00 p.m. Monitors 145.52 Simplex 10 a.m.-5 p.m. 8/01

Vaca Valley Radio Club. Meets 2nd Wed./monthly, 7:30 p.m. (Board mtg., 7 p.m.) Vaca Fire Dist. Stn., Vine St., Vacaville, CA. Rptr. WD6BUS 145.47(-) PL 127.3. Jim Bullington, (707) 446-4347 8/01

Victor Valley Amateur Radio Club. P.O. Box 869, Victorville, CA 92392. Meets 2nd Tue./monthly, 7 p.m., The Lewis Cntr, 20702 Thinderbird Rd., Apple Valley, CA. Talk-in 146.94(-), PL 91.5. Net Sun. 7 p.m. 146.94(-) 3/01

West Coast Amateur Radio Club, (WCARC). P.O. Box 2617, Costa Mesa, CA 92628. Meets 3rd Thurs./monthly, 7 p.m., Fountain Valley Sch. Dist. Office, 17210 Oak St., Fountain Valley, CA. Info: Jane, KD6ODV, (714) 531-6707 2/01

Yolo Amateur Radio Society. Meets 1st Tues./monthly, 7:30 p.m., Davis Explorit! Science Cntr, 3141 5th St., Davis, CA. Contact Dave Nishikawa, KC6YFG, (916) 756-6375/Talk-in 144.430. 3/01

COLORADO

Boulder Amateur Radio Club (BARC). Meets 3rd Tues./monthly, 7:00 p.m., NIST rm 1107, 325 So. Broadway, Boulder, CO. Talk-in:146.70(-). Info: (303) 380-6540, e-mail: BARC5Ø@arrl.net or www.thisistrue.com/barc.html 8/01

CONNECTICUT

Tri-City Amateur Radio Club. P.O. Box 686, Groton, CT 06340-0686. Meets 2nd Tue./monthly, 7 p.m., St. Lukes Lutheran Church of Gales Ferry on Rt. 12. Info: B. Dargel, KA1BB, (860) 739-8016. 8/01

FLORIDA

Gulf Coast ARC. P.O. Box 595, New Port Richey, FL 34656. Meets 4th Mon./monthly, 7:30 p.m., Marchman Tech. Ed. Cntr., 7825 Campus Dr., Bldg. C, Rm C122, New Port Richey. WA4GDN rptrs. 146.67(-) & 145.33(-), serving all of Pasco County. 11/00

Lake Monroe Amateur Radio Society. P.O. Box 151353, Altamonte Springs, FL 32715. Meets 1st Thurs./monthly, 7:30 p.m., Casselberry Sr. Cntr., Lake Triplett Dr., Casselberry, FL. Info: K. Lambert, KB4DCR, (407) 359-7767 10/00

Port St. Lucie ARA. P.O. Box 7461, Port St. Lucie, FL 34985. Meets 2nd Fri./monthly, St. Andrews Lutheran Church, 295 Prima Vista Blvd. Contact: Roy Cox, (561) 340-4319. www.qsl.net/pslara or 146.955-. 11/00

South Brevard Amateur Radio Club. P.O. Box 2205, Melbourne, FL 32902. Meets 1st Tue./monthly, 7 p.m., Public Library, 540 Fee Ave., Melbourne, FL. 12/00

GEORGIA

Cherokee Capital ARS. Meets 2nd Tue.monthly, 7 p.m., New Echota Methodist Church, 488 Red Bud Rd., Calhoun, GA. 146.805(+). Info: Felton Floyd, AF4DN, (706) 629-0369. 1/01

Dalton Amateur Radio Club, Inc., (DARC). P.O. Box 143, Dalton, GA 30722-0143. Meets 4th Mon./monthly, 7:30 p.m., Magistrate Court Bldg., corner of Waugh St. & Thornton Ave., Dalton, GA. Info: Harold Jones, N4BD, 706/673-2291. 5/01

Gwinnett Amateur Radio Society, (GARS). P.O. Box 88, Lilburn, GA 30048. Meets 3rd Thurs./monthly, 7:30 p.m., Gwinnett Central Baptist Church on Gwinnett Dr., Lawrenceville, GA. 147.075+ PL 82.5. Contact: Mike Swiderski, K4HBI, (770) 449-0369. 8/01

HAWAII

Emergency ARC, (EARC). P.O. Box 30315, Honolulu, HI 96820-0315. Meets 4th Thurs./monthly, 7 p.m., Am. Red Cross, 4155 Diamond Head Rd. Nets: nightly 7:30 p.m., 146.88 & 146.80. Rptrs: 146.76(-), 146.80(-), 146.88,146.98(-), 146.94(-). Info: (808) 256-6001, WH6CZB. www.qsl.net/earc/ 12/00

Koolau Amateur Radio Club, (KARC). 45-145 Mikihilina St., Kaneohe, HI 96744. Meets 2nd Sat./monthly, 9:30 a.m., Hoomaluhia Botanical Garden., Kaneohe, HI. Info: (808) 235-3042. http://www.chem.hawaii.edu/karc/ 8/01

ILLINOIS

Chicago FM Club Inc., (CFMC). P.O. Box 1532, Evanston, IL 60204. 146.76(-) PL 107.2/224.10/224.18/443.75 PL 114.8. Ham help line: (773) 262-6773. Info net Tues., 9 p.m. on 146.76(-). Meets 3rd Wed./monthly, 8 p.m. 8/01

Dupage Amateur Radio Club. (DARC). P.O. Box 71, Clarendon Hills, IL 60514. Meets 4th Mon./monthly, 7:30 p.m., Fire Station #3, between 59th & 63rd, Westmont, IL. Net Sun., 9 p.m. on 145.250. W9DUP rpts. 145.25(-) 107.2PL, 442.550(+) PL 114.8, 224.68(-). Info: (630) 985-9256 10/00

Fox River Radio League. P.O. Box 673, Batavia, IL 60510-0673. Meets 2nd Tue./monthly, 7:30 p.m., Old Bank Bldg., 900 No. Lake St., lower level, Northgate Shopping Ctr. & Rt. 31, Aurora, IL. 8/01

Peoria Area Amateur Radio Club, (PAARC). P.O. Box 3508, Peoria, IL 61612. Meets 2nd Fri./monthly, Red Cross Chapter House, 311 W. John Gwynn Jr. Ave., Peoria, IL. Voice mail: (309) 692-3378. Rptrs: 147.075(+) & 146.85(-). 8/01

Schaumburg ARC. P.O. Box 68251, Schaumburg, IL. Meets 3rd Thurs./monthly, 7 p.m., Rec. Center, Bode and Springinsguth Roads. (630) 612-9446. http://members.aol.com/sarcradio 10/00

The Starved Rock Radio Club, W9MKS. P.O. Box 198, Tabor St., Leonore, IL 61332. Meets 1st Mon./monthly, 7 p.m. Rptr. net 7 p.m. Wed./wkly., 147.12(+) PL 103.5. Web: http://www.qsl.net/w9mks E-mail: w9mks@qsl.net 6/01

LOUISIANA

Baton Rouge ARC. Meets last Tue./monthly, 7 p.m., Catholic High School, 855 Hearthstone Dr., Baton Rouge, LA. Net: 146.79MHz, 8:30 p.m. Sun. www.brac.org. E-mail: W5GIX@aol.com. 11/00

MAINE

Androscoggin Amateur Radio Club. Meets 1st Wed./monthly, 7 p.m., Auburn Police Station, 1 Minot Ave., Auburn, ME. Info: (207) 782-8699. 7/01

MARYLAND

Maryland Mobileers ARC (MMARC). P.O. Box 935, Severn, MD 21144. Meets 1st Fri./monthly, 7:30 p.m., Baldwin Hall, Generals HWY, Millersville. Info net each Mon. 8:30 p.m. on 146.805(-), tone 107.2 Hz. http://www.qth.com/mobileers 7/01

MASSACHUSETTS

Genesis Amateur Radio Society. P.O. Box 1234 Plymouth, MA 02362. Meets last Mon./monthly, 7:30 p.m. at Plymouth Airport, So. Meadow Rd. Tues. net: 146.685, W1LM, 8 p.m. 7/01

MICHIGAN

Chelsea Amateur Radio Club, Inc., WD8IEL Meets 4th Tues./monthly, 7 p.m., Key Bank, 1478 Old Chelsea-Manchester Rd., Chelsea. Info: Bill Altenberndt, WB8HSN, (734) 475-7938 Rpt: 145.450(-). 5/01

Genesee County Radio Club, Inc. Meets 3rd Tues./monthly, 7:30 p.m., Genesee Area Skill Center, Torrey Rd., Flint, MI. (810) 733-2082. 3/01

Hiawatha Amateur Radio Assoc. of Marquette Co. P.O. Box 1183, Marquette, MI 49855. Meets 1st Thurs./monthly, 7:30 p.m., 108 Stratofort, K.I. Sawyer AFB, MI. For info contact: Richard Schwenke, N8GBA, (906) 249-3837. 10/00

MISSISSIPPI

Jackson ARC Inc. Meets 3rd Thurs./monthly, 7 p.m., Am. Red Cross Bldg., Riverside Dr., Jackson, MS 39202.11/00

West Jackson County ARC, Inc. Meets 3rd Tues./monthly, 7 p.m., Ocean Springs Crt. Rm., Ocean Springs, MS.1/01

MISSOURI

Macon County ARC. P.O. Box 13, Macon, MO 63552. Meets last Wed./monthly, 7 p.m., Macon R-I High Sch., rm.167. Net every Thurs., 8:30 p.m. 146.805. E-mail: nøpr@arrl.net 1/01

NEBRASKA

Ak-Sar Ben ARC of Omaha P.O. Box 24551, Omaha NE 68124-1551 Meets 2nd Fri./monthly, 7:30 p.m., Red Cross, 81st & Spring St. http://www.qsl.net/k0usa 7/01

NEVADA

Frontier Amateur Radio Society, (FARS). Meets: 2nd Sat./monthly, bkfst. mtg. 9 a.m., Country Inn, 1990 West Sunset, corner of Valle Verde, Henderson, NV. Info: J. Frye, NW7O, (702) 456-5396 or B. Scanborough, WA6ASI, (702) 269-9551 8/01

Sierra Intermountain Emergency Radio Assoc., (SIERA). Meets 2nd Tues./monthly, 7:30 p.m., Minden Med. Cntr, Hwy 395 & Ironwood Dr., Minden, NV. Info: George Uebele, WW7E, (775) 265-4278, ww7e@arrl.net, Rpt. 147.330 MHz. 1/01

NEW HAMSHIRE

Port City ARC (PCARC) W1WQM. P.O. Box 1587 Portsmouth NH 03802. Meets 1st Wed./monthly (Sept.-June), The Edgewood Ctr., 928 So. St., Portsmouth. Rptr. 146.805(-) PL 127.3, 110.9, 88.5. 11/00

NEW JERSEY

Bergen Amateur Radio Association, (BARA). P.O. Box 304, Hackensack, NJ 07601. Meets 1st Sun./monthly, New Milford Elks Lodge, Patrolman Ray Woods Dr., New Milford, NJ 07646. Nets: 28.350 Mon. 9 p.m., 146.79(-) 9 p.m. Wed. 6/01

The Garden State Amateur Radio Assoc., (GSARA). Meets 1st & 3rd Wed./monthly, 8 p.m., MARS Bldg., Fort Monmouth, NJ. Info: B. Buus, W2OD, (732) 946-8615. 12/00

South Jersey Radio Assoc., (SJRA), K2AA. Meets Jan.-Oct., 4th Wed./monthly, 7:30 p.m. (Nov.-Dec. 3rd Wed), Bloomfield Fire Hall in Pennsauken, NJ. Talk-in: 145.29(-) rptr. 8/01

NEW YORK

Amateur Radio Association of the Tonawandas, (ARATS). P.O. Box 430, No. Tonawanda, NY 14120. Meets 3rd Tues./monthly (except July & Aug.), 7:30 p.m., Sweeney Hose Co., 499 Zimmerman St., No. Tonawanda, NY. Talk-in: 146.955(-) rptr. W2SEX. 2/01

Genesee Radio Amateurs, (GRAM). P.O. Box 572, Batavia, NY 14021-0572. Meets 3rd Thurs./monthly, 7:30 p.m. (except Jul Aug Dec), Salvation Army Com. Cntr, 529 East Main St., Batavia, NY. URL: http://hamgate.sunyerie.edu/~gram 6/01

Hall of Science ARC. P.O. Box 150131, Kew Gardens, NY 11415. Meets 2nd Tue./monthly, Hall of Science Bldg., 47-01 111 St., Flushing Meadow Park, 7:30 p.m. Info: Voice mail (718) 760-2022. 3/01

PROS, Pioneer Radio Operators Society. Meets 1st Wed./monthly, 7 p.m., Sardinia Town Hall, Savage Rd., Sardinia, NY. K. Moon, N2IFG, (716) 652-0923. 6/01

The Radio Club of J.H.S. 22, N.Y.C., Inc. WB2JKJ. P.O. Box 1052, NY, NY 10002. 24-hr. hotline: (516) 674-4072. Fax: (516) 674-9600. E-mail: crew@wb2jkj. org. Non-profit org. using Ham Radio to enhance the education of youngsters, nationwide. Join us—"Class-room Net," 7.238 MHz, 7 a.m. E.S.T. PSE QSL! 10/00

South Towns Amateur Radio Soc. (STARS). Meets 1st Thurs./monthly, 7:30 p.m., Hamburg Youth Cntr, Prospect Ave.Hamburg, NY (exc. Jul, Aug @ NIKI Base). Info: N2TEZ, 180 University Ave., Depew, NY 14043. Web: www.cmp-express.com/stars. Rpt: WB2ELW 147.090(+) PL107.2 11/00

Suffolk County Radio Club, (SCRC). Meets 3rd Tues./monthly, 8 p.m., Bohemia Rec Ctr., Ruzicka Way, Bohemia, NY. Talk-in: 145.21(-) rpt. W. Black, KB2YAP, (631) 289-5587 7/01

Westchester Emergency Comm. Assoc., (WECA). Meets 2nd Mon./monthly, 7:30 p.m., Westchester County Ctr., White Plains, NY. Contact WECA INFO LINE (914) 741-6606 for details. Talk-in WB2ZII/R 147.06(+) PL 114.8/2A. 10/00

Westchester FM Repeater Ass'n. K2JQB Rptr. 146.91 MHz. Meets 3rd Thurs./monthly, 7-9 p.m., Yonkers Pub. Lib., 1500 Central Pk. Ave., Yonkers, NY, near S.E. cornor of Tucahoe Rd. Free Parking. Info: M. Grossman, K2CON at (718) 544-2370 or E-mail: K2CON@ hotmail.com 6/01

Yonkers Amateur Radio Club, (YARC). Meets 2nd Sun./monthly, 10 a.m., 1st Pct., Yonkers Police Station, E. Grassy Sprain Rd., Yonkers, NY. Info: P.O. Box 378, Centuck Sta., Yonkers, NY 10710. (914) 963-1021. 146.865(-), 440.150(+). 2/01

NORTH CAROLINA

Stanly County Amateur Radio Club. Stanfield, NC. Meets 4th Thurs./monthly, 7 p.m. Talk-in 146.985(-) for location. Wed. net 9 p.m. 146.985(-). Fri. tech net 9 p.m. 147.390(+). Ph: (704) 888-4815. www.mdsmm.com/scarc/ 5/01

OHIO

Ashtabula County ARC Ken Stenback, W8KS (964-7316) County Vo-Ed School, Jefferson, OH. Meets 3rd Tue./monthly, 7:30 p.m., County rptr., 146.715(-). 1/01

Clyde Amateur Radio Society (CARS). Meets 2nd Tue./monthly, 7:30 p.m., Municipal Bldg., Clyde, OH 43410. NF8E rptr. 145.35(-) and 442.625(+) MHz. Net Sun. 9 p.m. Info: E. Remaley, KA8CAS. 10/00

Western Reserve Radio Assoc. P.O. Box 81252, Cleveland, OH 44181-0252. Meets 2nd Wed./monthly, 7:30 p.m., Jenkins Communications Cntr., Main St., Olmsted Falls, OH. Info: C. Bade, W8CJB, Sec., 146.73(-), 444.900(+) MHz. 10/00

OREGON

Central Oregon Radio Amateurs, Ltd. (CORA). P.O. Box 723, Bend, OR 97709. Meets last Thur./monthly, 7 p.m., Bend Sr. Ctr., 1036 NE 5th, Bend, OR. 146.940(-) MHz. Info: (541) 388-3831. 10/00

Central Oregon Coast ARC. P.O. Box 254, Florence, OR 97439. Meets 2nd Sat./monthly, at Bliss' Route 66 Restaurant at Hwy 101 & 12th St. Net Wed. 7 p.m., 146.80(-). Info: 997-2323 or 997-4074. 6/01

Hoodview ARC. P.O. Box 20624, Portland, OR 97220. Meets 3rd Thurs./monthly, 7:30 p.m., Mt. Hood Com. College/Gresham, Rm 1001. Rptrs: 147.28(+), 448.475(-5) (tone 167.9) http://www.wb7qiw.org 5/01

Umpqua Valley Amateur Radio Club, Inc. P.O. Box 925, Roseburg, OR 97470. Meets 3rd Thurs./monthly, 7:30 p.m., Douglas County Court House, Rm. 310, Roseburg, OR. Info: K6AZW/R 146.90(-) (PL100) or (541) 784-3621. 8/01

PENNSYLVANIA

Mercer County ARC, W3LIF. P.O. Box 996, Sharon, PA 16146. Meets 4th Tue./monthly, 7:30 p.m., Shenango Valley Med. Ctr, Farrell, PA. Net, Thurs. 9 p.m. on 145.35(-) W3LIF, Digi. 145.Ø5. 6/01

Mid-Atlantic ARC, (MARC), WSNWA. Meets 3rd Thurs./monthly, 8 p.m., Radnor Mem. Library, Wayne, PA. Rtrs 147.06, 145.13. Net, Sun., 8:30 p,m, http://www.marc-radio.org 11/00

TEXAS

Brazos Valley Amateur Radio Club, (B-VARC). P.O. Box 1630, Missouri City, TX 77459. Meets 1st Thurs./monthly, 7 p.m., Sugar Land Community Ctr., 226 Matlage Way., Sugar Land, TX. 12/00

VIRGINIA

Mt. Vernon ARC, (MVARC). Meets 2nd Thur./monthly (except Dec.), 7:30 p.m., INOVA Mount Vernon Hospital, 2nd floor, ENG Conference Cntr. Rm. Info: Bob, KT4KS, (703) 765-2313. E-mail: mvarc@juno.com. Web: www.mvarc.org/. Net: Tue., 8:30 p.m. 146.655-. 10/01

Ole Virginia Hams ARC, (OVH). Meets 3rd Mon./monthly, 8 p.m., Northern Virginia Electric Coop. Tech Cntr, 5399 Wellington Rd., Gainesville, VA. Info: Mary Lu, KB4EFP, (703) 369-2877. http://www.qsl.net/olevahams 3/01

Portsmouth ARC. Meets 4th Thur./monthly, 7:30 p.m., Am. Red Cross Chapter house, 700 London Blvd., Portsmouth, VA. Talk-in 146.850. Info: C.I Clements, Pres. (757) 484-0569. http://www.series2000.com/users/wa4nvi/parc/htm 6/01

Southern Peninsula Amateur Radio Klub, W4QR (SPARK). Meets 1st Tue./monthly Sal. Army Com. Bldg., Hampton, VA. Rptrs 146.73(-), 449.55(-). VE Exam Info: (757) 898-8031, W4RTZ. 3/01

Virginia Beach ARC. Meets 1st Thurs./monthly, 7:30 p.m., Virginia Wesleyan College, Wesleyan Dr. off N. Hampton, Village 2 Commons, Graybeale Bldg., Virginia Bch, VA. 2/01

Woodbridge Wireless, Inc. (WWI). Meets 2nd Tues./monthly, 7:30 p.m., Canteberry Woods Comm. Cntr.(corner of Springwoods & Chaucer), Lake Rige, VA. Talk-in 147.24(+). For info: http://www.pwcweb.com/wwi/ 7/01

WASHINGTON

The Mike & Key Amateur Radio Club. Meets 3rd Sat./monthly, 10 a.m., Salvation Army Renton HQ., 720 Tobin St., Renton, WA. Talk-in on 146.82(-) (103.5 CTCSS) rptr. Doors open 9:30 a.m. 5/01

WEST VIRGINIA

Jackson County ARC Meets 1st Thurs./month, 7:30 p.m., St. John Episcopal Church of Ripley. Net Mon. 9 p.m. on 146.67(-) WD8JNU/R. Info: D. Tennant, N8ZYB, Rt. 1, Box 188, Mt. Alto, WV 25264. 7/01

Tri-State Amateur Radio Assn. Meets 3rd Tues./monthly, 7p.m., Museum of Radio & Tech., 1640 Florence Ave., Huntington, WV 25701. (304) 525-8890. 6/01

WYOMING

Sheridan ARC Meets every Sat. at Bubba's, 7:30 a.m. exit 23 off HYW I-90, Sheridan, WY. Club call: W7GUX, 146.22/82. Info: G. Roelfsem, K7GR 8/01

University ARC. Meets 1st Tues./monthly, 7:30 p.m., Univ. of WY, Engineering Bldg., rm. 2100, Laramie, WY. 146.01/61. 12/00

NATIONAL

Bicycle Mobile Hams of America. 46 states/6 nations membership. Annual Forum at Hamvention. Info, sample newsletter, e-mail address to: hartleyal @aol. com or, SASE to BMHA, Box 4009-W, Boulder, CO 80306-4009. 2/01

Finding new Hams

Jim Hammock, KIØDN
Educational Services Coordinator

Club membership dwindling? Fewer people showing up every Field Day? Not enough people to work the next public service project? More and more club members getting the senior discount at Denny's? It's time to bring in new blood!

Okay, I know, you've done the usual things, talked to your friends, put up notices in the local RadioShack and TV repair shops, maybe you've even put up a web site.

You are probably doing all the right things to attract the people who are already in the club, which is a little like fishing in your aquarium. The key is to get outside the club, access people who don't know that Ham radio will benefit them and have no interest — yet! While this column is about HANDIHAMS, there is little difference in recruiting people with or without disabilities.

Finding New People

Look in what you may consider unlikely places. You want to go someplace where Amateur Radio is somewhat unknown and your presentation will be fresh.

It is an unfortunate fact that accidents happen more often to people in their teens and twenties. For this reason rehabilitation centers, VA hospitals, childrens' hospitals and burn centers are a good place to start finding young adults. People who have incurred a life changing disability can usually benefit from working towards something unrelated to their former occupation or hobby, and these facilities are usually looking for programs that are not "the same old thing." Someone with a disfiguring disability would really appreciate the spontaneous conversation provided by Ham radio, something that is not usually present with face-to-face encounters.

Contact local organizations that provide adaptive camps for children with various diseases or disabilities. A child with hemophilia or kidney disease often spends hours in treatment. The nature of Ham radio lends itself beautifully to improving the quality of those hours.

Where are the inventors and innovators of tomorrow? Most are in school right now. While it may seem obvious, schools are one of the great-untapped sources of new Hams. While many clubs may put on short demonstrations in grade schools, clubs need to have a presence when youngsters are making more decisions for themselves.

College clubs used to be prominent on many campuses in the past. A search on the web reveals that many are defunct, inactive or struggling. Part of the problem is that students are only at the school for two or four years and, especially now, only about nine months of the year. This means the college clubs have problems maintaining leadership and planning continuity for field days, and long-term projects.

Scouts, Boys and Girls Clubs, the YMCA, and YWCA all have youth and young adult programs. There are many youths who would never consider Amateur Radio because they haven't been exposed to it. Find out how your club could fit into one of their programs and try to become an integral part.

Building Their Interest

The first task is to get to the potential new members. This usually means through some type of bureaucracy. I say "through" because "around" will blow up in your face sooner or later.

The people in charge of these organizations have been around the block a few times. They are seldom approached by anyone who is purely altruistic, and they will be wondering what's in it for you and how much it will cost them. Plainly state what is in it for your club (a chance to find new members), what is in it for them (a no-cost program or class), and what is in it for their clients (a new hobby or career).

Have a presentation plan for the decision-maker, anticipate all questions and objections, and rehearse. If you show up with a vague idea of what you'd like to do you've already lost.

After your foot is in the door you need to have a planned presentation.

Don't be a talking head. This is a hobby and few non-Hams will be excited by a monologue about a QRP contact with Heard Island. "Show them" should be followed with "let them." Many people have a lot of the "I could never do that" mentality. Having a member of your target audience do something will dispel that feeling.

Talk with the audience. Don't talk above, below or at them. Figure out what the audience can comprehend and stay at that level. Don't focus on the license requirements. Discussing the study materials and exam requirements, especially at first, will throw a wet blanket on any excitement you hope to generate.

Keep demonstrations and displays simple, enjoyable, and attainable for the audience. If your demonstration appears too complex, too labor intensive, or too expensive you will lose a lot of your audience. It's okay to stage demonstrations, just make them worthwhile. One effective demonstration I have used in schools is to use an autopatch to call the principal. Just let the principal know in advance. Hearing their nervous principal on a radio usually provides a little comic relief and eases the way for participation.

Prepare a handout and get contact information. Give everyone an information sheet for people to take home that reminds them what was covered invites them and their families to visit some club activities, and lists upcoming classes. Don't forget to have a willing point of contact with the club.

Once you have their interest you have to help get their ticket. We'll cover that next time.

The Courage HANDI-HAM System
3915 Golden Valley Road
Golden Valley, MN 55422
E-Mail: handiham@mtn.org; http://www.handiham.org, or call our new member line toll-free: 866/426-3442 or 866/HANDIHAM

Surprise Field Day

Nancy Kott, WZ8C

"Have Key, Will Travel" was my motto for Field Day this year. When Rick McCusker, WF6O, ***Worldradio*** editor, mentioned in passing he would like me on the ***Worldradio*** Field Day team, I thought he was kidding. I live in Michigan, the Field Day is in California, how could I possibly be there? Apparently nothing is beyond the realm of possiblities for publisher Armond Noble. He phoned about a week before Field Day and asked if I would be available to fly out on Friday. Would I? You betcha! I hung up the phone in a daze, wondering how in the world am I going to wake at 3 a.m. to catch an early morning flight to California, participate in Field Day, then fly back on Sunday afternoon?

I checked the weather reports — temperatures in Sacramento are often over the 100 degree mark! I wasn't sure where the Field Day site was going to be. Rick had orginally talked about a farm field, where the outdoor temperature could pass the 100 degree mark, but Armond said we might be inside an air-conditioned building at the Sacramento Society for the Blind. I decided to pack an all-purpose FISTS t-shirt and jeans. But which key to bring? That was the big decision. I know that Norm Brooks, K6FO, Associate Editor, and Rick are CW men, so I assumed they would have an iambic keyer available. Iambics aren't my forte however, but I didn't think any of my bugs would be a good traveling choice. I opted to pack my Schurr mobile model straight key. It's small enough to fit in my purse and it's a gem of a key.

I arranged for the time off from my job. That wasn't a problem, but try to explain to non-ham coworkers that you are going to fly out to California, sit somewhere for 24 hours sending Morse code, then fly back! I'm sure my sanity, or lack of it, was fodder for discussion at the water cooler while I was gone.

I had it all figured out. If I went to sleep at 8 p.m. Thursday night, I would have seven hours of sleep by 3 a.m. That was good in theory, but falling asleep that early wasn't realistic. Not only did the phone keep ringing with people wishing me well, but also it was daylight and I was far too excited to sleep. I fell asleep close to midnight. Two alarms were set in case I didn't hear the first one — nothing was going to make me miss that plane.

I was up, dressed and on my way in record time for the two hour drive to the airport. I didn't have to worry about rush-hour traffic while driving through Detroit. At 3 a.m. I was one of the few vehicles on the road.

I hoped to sleep on the plane, but that did not happen. Somehow I managed to make all the connecting flights, even the changing of terminals in Los Angeles. Wow! That airport is like a city. I felt like a real country bumpkin, wandering around, gawking at everything, trying to figure out how to get from the Delta terminal to the Southwest terminal. I was never so relieved as I was when the plane landed in Sacramento — I made it!

Helen Noble met me at the airport, which was a nice surprise. She gave me the grand tour of the ***Worldradio*** facilities and introduced me to the staff. I felt right at home. You probably would too, if your shack is a typical hamshack. There were stacks of papers and equipment everywhere! And more piles on top of that! It's a homey, friendly and casual atmosphere. I lost count of all the cats wandering in and out, and one of the staffers had brought her dog.

Armond and Helen Noble publish two other magazines besides ***Worldradio***, one about traveling and one about the military. Each has its own separate office building. The military magazine offices

were very interesting. The readers send in patches, pins and other memorabilia which is displayed on the walls and shelves. I wish I had been more awake and able to look at it all!

Helen and I then drove to the Field Day site, which was the Sacramento Society for the Blind. The *Worldradio* crew had been busy putting up the antennas and setting up the radios. This was the first Field Day I have attended where all the work was done before I got there! Although I enjoy Field Day set-up, there is something to be said for not having to lug out tents, uncoil antennas, set up the radios and heavy batteries or generators.

Then, it was on to the hotel where I fell asleep the minute my head hit the pillow. Morning came about 12 hours too soon; but, I was running on adreneline and ready to go. At the site, the *Worldradio* crew was again hard at work, putting the finishing touches on the antennas. I went inside to try to familiarize myself with Rick's Yaesu.

I was in trouble. Next to his Yaesu with a front panel that looked like something out of a spaceship, was a computer, complete with keyboard. Athough I can type, I can't copy AND type at the same time very well and have never used a keyboard to send Morse code. I did not have much experience with computer logging either. Rick came in and said we were also set up for PSK31, which was one more thing I knew nothing about! Feeling like a relic from the past, I took my straight key out of my purse and wondered how this was all going to work out. They brought me to California because I am supposed to be a hot-shot CW operator, and I couldn't even find the "on" switch on the rig! Luckily Norm arrived just about then. He is a wiz at computer logging and keyboard sending! He walked me through the basics with the patience of a saint. I know that when Field Day got underway and I hit the wrong function key and sent CQ FD instead of the exchange (for the umpteenth time), he must have been ready to strangle me; but he showed remarkable restraint.

We figured out how to hook my straight key in parallel with the keyboard and even get a sidetone, so we had the best of both worlds.

Being open minded, I stayed with their battle plan of using the keyboard, but the straight key came in handy. When people discovered we were *Worldradio*, WR6WR, they tended to ask a question or two, to which I was able to respond without fumbling with the keyboard. There were at least a couple dozen people who knew Norm and we were able to use the straight key to say "Hi" back to them.

Propagation was generally bad, so when the bands got slow Rick would switch over to the PSK31. I found it to be quite interesting! It reminded me of packet with a twist. I don't see how it will ever become more popular than plain old Morse code, but to each his own. I enjoyed seeing it in operation. More importantly, the contacts were worth two points, just like CW contacts!

It was all over before I knew it: the antennas came down and the rigs were put away in record time. I had a chance to visit with Helen and Armond for a bit before I boarded the return flight to Michigan. They were very gracious hosts. I know Armond was dying for a nap, but he gave me a tour of his home station — which has some very impressive operating awards, QSLs and rigs, and presented me with a QRP rig to take home! I am looking forward to getting it on the air!

I am looking forward to Field Day next year. Do you suppose it would be too pushy for me to start hinting for an invitation to next year's *Worldradio* Field Day yet?

The Dow-Key Company

Lynn Burlingame, N7CFO, is writing the history of the Dow-Key Company. The Dow-Key company was started in the early 1940's in Winnepeg and later moved to Warren, Minnesota. Dow-Key originally manufactured a line of speed keys, and later made high quality relays.

He is also doing a census of Dow-Key bugs and needs the following information: Type, finish, label information, serial number, damper type, color and shape of paddles. He especially needs to locate original owners of Dow-Key bugs to help date Dow-Keys by serial number range. You can submit this information via an automated questionnaire at his web site at http://www.qsl.net/n7cfo/index.htm or contact him at the address below.

If you knew Paul or Gordon Dow, Lynn would appreciate hearing from you. You can write Lynn at: 15621 SE 26th Street, Bellevue, WA 98008 USA. His telephone number is (425)641-5488. His e-mail is n7cfo@ix.netcom.com.

The challenge continues

The challenge to make 2,000 contacts during the year 2000 on 10 Meters continues to keep 10-10 members tuned to 10 Meters. Those that have completed their 2000 "anyone" contacts are now trying to complete 2,000 no-dupe contacts with 10-10 members only. While many 10-10 members have completed making 2,000 contacts with any station on 10 Meters, only two that I am aware of as of the date of this writing have complete 2,000 contacts with no dupes and with 10-10 members only. On 26 July 2000 at 2122UTC, Mike, N5MT #24949, made his contact number 2,000 with DX 10-10 member Arthur, ZL1DU #68924. Mike also states that as of the date of completing his 2,000th 10-10 contact, he has over 5,100 10-10 contacts so far in the year 2000.

Another 10-10 member, Cliff, WB4FBS #48461, has completed his 2,000 unique (10-10 member only) contacts. On the morning of Sunday, 30 July, Cliff turned on the radio at 1255UTC needing 29 10-10 contacts to complete his 2,000 contacts in the year 2000. At 1512UTC, Cliff made his number 2,000 with Joe, KB4FOS, #49014, of Jacksonville, FL.

Congratulations to these two 10-10 members for meeting the Challenge of making 2,000 contacts with 10-10 members only during the year 2000. Both members completed the challenge in less than seven months! Mike reports at the time he completed the Challenge, he had over 5,100 contacts in the log. Add this to Cliff's total 8,103 contacts for the year at the time he met the challenge and these two members alone have made over 13,200 contacts. And then there those who complain that there is never propagation on the 10-meter band! Mike and Cliff will each receive a plaque for their effort. Who will be number three to complete the challenge?

2,000 new members in 2000

New member applications for 10-10 keep rolling in. At this writing we are just over seven months into the year. It looks like we have a good chance of meeting the challenge of enrolling 2,000 new 10-10 members in the year 2000. The help of each member in giving information to potential new members will help us make the challenge a reality. Have the 10-10 address handy at your operating position so if you get the question "Where do I send for information, where do I send my application?" you have it handy. Remember, all correspondence regarding membership, dues and renewals go to the Omaha 10-10 address. This is listed near the end of this column.

The 2,000 new members in 2000 challenge requires no action by the membership, except to get your call and number listed on as many new member applications as possible. Here is a list of the top 10 in the 2K in Y2K Challenge as of the date of this writing:

No.	No of times Listed	Call	10-10 #
1	63	WB4FBS	48461
2	60	K5GAY	11825
3	59	VP2VF	63440
4	56	KCØCMZ	70882
5	51	WN9P	41483
6	41	KC7DH	52099
7	38	LU3CT	68907
8	38	DK3KD	58990
9	37	W6YLJ	19636
10	36	6Y5DA	17404

It is interesting to note that 10-10 #1 has been listed on two different new member applications. 10-10 #1 is Dick Gregorio, K1RAW, of Framingham, MA. Another interesting fact is K1GLJ #71662, of Florence, VT, completed his 10-10 applications using only DX contacts. He made his 10 contacts by contacting 10-10 members in England, Italy, Germany, France and Wales. And NP3XH #71688 of Isabela, PR, made his 10 contacts all with 10-10 members in Germany. Nine of his 10 contacts were made on the same day! And then there are those who say the band is dead?

10-10 silent keys

The Silent Key Manager is trying very hard to maintain an accurate listing of all 10-10 SK's. Should you become aware of an 10-10 member becoming a Silent Key, please send all information to: John Miller, WØIKT #37983, 10-10 Silent Key Manager, 401 Tiffany Drive, Anderson, SC 29625-2567. John is the official source of 10-10 Silent Key information and communicating direct with him will make this tough job much easier. When sending SK information to John please in the include all information available about the SK member.

Sunspots

A recent ARRL Propagation Forecast Bulletin gave a very understandable explanation of sunspots written by Tad Cook, K7VVV #5569. The following is a brief summary as to why sunspots are so important to operation on 10 Meters.

10-10 International News

Amateur Radio operators who use HF generally like increased sunspots because it correlates with better worldwide radio propagation. When there are more sunspots, the sun puts out radiation, which charges particles in the ionosphere. Radio waves bounce off of these charged particles, and the more dense these clouds of ions the better the HF propagation. When the ionosphere is denser, higher frequencies will reflect off of the ionosphere rather than passing through to space. This is why every 11 years or so when this activity is higher, 10 Meters gets exciting. It is a high enough frequency, right near the top of the HF spectrum, that radio waves propagate very efficiently when the sunspot count is high. Because of the wavelength, smaller antennas are very efficient on the 10-meter band, so mobile stations running low power on 10 Meters can communicate world wide on a daily basis when the sunspot cycle is at its peak.

In other words, the higher the sunspot numbers, the better the propagation for 10 Meters. Sunspot numbers are available from several sources on the web. One source that has several daily postings is the 10-10 e-mail subscription list, TENTEN-L. Information on how to subscribe to the TENTEN-L list is available on the 10-10 web site: www.ten-ten.org.

Information about 10-10?

If you would like information about 10-10, and how you can become a member and receive your very own unique 10-10 number, send $2.00 and an address label for the return of your information package to: 10-10 International Net, Inc., Attention: Information Package, 643 N. 98th Street - PMB #142, Omaha, NE 68114-2342. No SASE please as the information package requires a 9 x 12 envelope. You will receive a copy of the Information Brochure, which contains everything you want to know about the 10-10 organization, a listing of all 10-10 Chapters, their day, time, and frequency of net operation and an application form. Also enclosed will be a copy of the QSO Party Information Brochure and a copy of the latest issue of the *10-10 International News*, the 32 page 10-10 quarterly magazine.

You can also find just about anything that you need on the 10-10 web site at: www.ten-ten.org

If your membership in 10-10 has expired and you would like to renew your dues, send your dues ($10.00/year or $25.00 for 3-years) to: 10-10 International Net, Inc., Attention: Dues Renewal, 643 N. 98th Street - PMB #142, Omaha, NE 68114-2342. You will become an "ACTIVE" member again and receive all of the benefits of 10-10 including the quarterly 10-10 International News. Please do not forget to include a donation to the Scholarship Fund along with your dues renewal.

Remember 10-10 numbers are issued for life and your originally issued number is always yours. If you have lost, or forgotten, your 10-10 number, send a #10 SASE to the above address marked to: Attention: 10-10 Number, and your original 10-10 number will be sent back to you.

—Chuck Imsande, W6YLJ #19636, 10-10 Vice President, 20815 Desert Sands Drive, Sun City AZ 85375-5443 or e-mail at: w6ylj@arrl.net

Inside Amateur Radio

The following story has been excerpted from Inside amateur Radio, *by the late Lenore Jensen, W6NAZ. The book can be purchased from Worldradio Books, P.O. Box 189490, Sacramento, CA 95818. Price is $9.00 plus $2.00 shipping and handling. CA residents please add 70¢ sales tax.*

Inspiration, long distance

Rehab Radio has performed remarkable therapy for patients at St. Jude Hospital in Fullerton, California. It came about when occupational therapist April Moell, WA6OPS, was showing new hospital employees around her department.

"A nurse, not knowing I was a radio Ham, surprised me by asking if there was any way we could use some Amateur Radio Equipment for therapy.

"Her late husband had been WB6ECW. The woman said he had enjoyed his transmitter and receiver so much, she'd like to see someone use them for a good purpose and continue to bring joy to others."

Delighted, April secured permission from the hospital to install the equipment in a room as well as an antenna on the roof.

Soon she had established Rehab Radio. Long-term patients have been extremely interested, often inspired at hearing faraway stations. They are encouraged to speak into the station microphone.

Often, the excitement of the moment will cause them to carry on a conversation, using words they previously had been unable to utter.

One stroke victim had been despondent until the day April contacted a radio operator in Utah. The patient was sitting nearby. When she explained about the hospital, the Ham said, "I know a lot about rehabilitation. Seventeen years ago I was in a diving accident and became a quadriplegic."

The man went on to explain he had earned a Ph.D. and was now a professor. He could even drive a van.

Hearing this, the stroke victim told April, "If he can do that with four limbs paralyzed, I better do something with only two not working. I better damn well do something!"

QRP reception by the seat of our pants

Looking through a logbook from my novice days in the mid-'60s reminded me recently of just how the complexion of Amateur Radio has changed over the last 35 years.

Back then, when the CW conversation got around to gear and antennas, the exchange often went something like this: "RIG HR IS A DX-20 RUNNING 50 WATTS. RCVR IS AN SX-110. ANT IS A DIPOLE."

Seems odd, doesn't it, not to have a transceiver in the mix? Those were the days when QRP was considered 100-watts and below. And, yes, once upon a time the CW transceiver was a rarity. Operators proudly assembled stations by buying, or building, the best receivers and transmitters they could find, or afford.

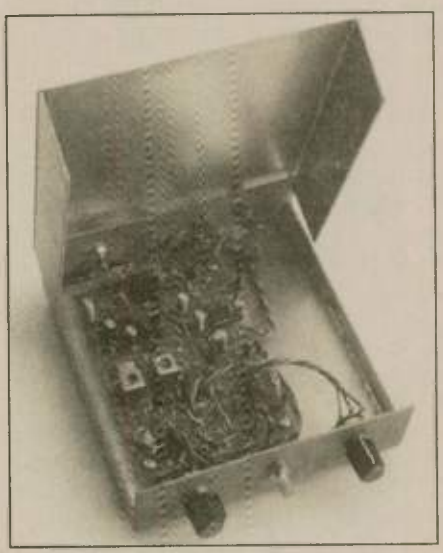
Today, it's rare to run across operators using separate receiving and transmitting units. Undoubtedly there's been a recent surge among QRPers with the reappearance of the famed Tuna-Tin 2 milliwatt transmitter rejuvenated in the NorCal QRP Club's quarterly journal "*QRPp*," and distributed in kit form by the New Jersey QRP Club.

After months of development, NJ-QRP is now offering a great little direct conversion receiver kit that can make a wonderful companion to the TT-2. It's back to the future, indeed. Lovingly dubbed the SOP Receiver, short for "Seat Of the Pants", it was designed by veteran QRPer and designer Joe Everhart, N2CX, and can be built for either 80- or 40-meter CW reception.

This is no single-chip circuit, though. It takes some of the fundamental concepts of the classic "Neophyte" direct conversion receiver, which rocked the QRP homebrew world after appearing in the February 1988 edition of *QST*, and pushes DC receiving to a whole new level.

"The SOP is intended as a utility CW receiver," the SOP kit's comprehensive 42-page manual says, "useful in the shack to complement some of the simple transmitter projects today (Tuna-Tin 2, Fireball 40, etc.); or for use in the field because of its low power consumption and small size."

Among the benefits of Joe's advanced SOP design is diminished off-frequency QRM — a problem inherent in many garden variety DC receivers — through the use of an audio low pass filter. Having had a chance to use the SOP in a variety of band conditions, I'll bet lots of operators will be fooled into thinking they're using a superheterodyne.



The NJ QRP Club's SOP Receiver kit pushes direct conversion circuitry to new levels.

Traveling through the SOP Receiver kit's schematic from antenna to headphones, you'll find a slew of active devices married to make this little gem go: an RF pre-amp (2N5485), followed by a mixer stage (ADE-1), audio gain (2N3565), lowpass filter, a local oscillator (SA612), LO buffer (a pair of 2N2222s), and a final stage of audio amplification (LM386). As added attractions, you'll also find a CW muting circuit (2N5485) and optional audio frequency annunciator (AFA) circuit (PIC16C715-04/P 9923SAN), which at the push of a button will send the listener a Morse code readout of the exact frequency the SOP has been tuned to. Very neat.

The SOP receiver kit arrived at KI6SN in a brown envelope containing a high quality plated-through, double sided and silk screened printed circuit board, plastic bags filled with on-board parts, a separate bag with the optional AFA, and the off-board potentiometers, plugs and jacks. I had also purchased the SOP Receiver enclosure kit — a do-it-yourself pre-cut and drilled cabinet to house the PC board.

Builders can buy only the PC board and parts kit, or splurge and add the AFA circuitry, off-board hardware and enclosure kit.

A comprehensive manual accompanies the kit, taking the builder step-by-step through construction and providing a full schematic and pictorial showing parts placement. This illustration, coupled with silk-screened markings on the PC board, provide an easy-to-follow roadmap to builders.

If the builder chooses, he or she can follow the "build a section/test a section" regimen spelled out in the manual to assure that individual stages are working properly before moving onto the next.

The SOP Receiver kit is a good starter kit for the beginner. There are several inductors in the circuit, but most are pre-wound chokes or "IF cans." Two toroids, though, must be wound by the builder. T-1, in the RF pre-amp, is a transformer with a tapped secondary. For the radio amateur who is new to toroid-winding, this can present a bit of a challenge. But following the manual's instructions, it's really a snap.

After stuffing the PC board with the receiver components and making a couple of necessary modifications sent

as a follow-up from the NJ QRP Club, it was time to apply 12-volts to the completed circuit to see what it could do. The headphones were immediately filled with audio hiss. Connecting an antenna and peaking the IF cans and a board-mounted input capacitor brought the SOP to life on the 40-meter band.

CW signals popped up everywhere on a tuning sweep through the band. With the fundamental circuit obviously working, it was time to add the optional AFA circuit. A handful of resistors and capacitors, a diode, transistor, an 18-pin chip, a 4.096 MHz crystal and front-panel mounted pushbutton filled out the board.

Re-applying power this time brought forth "S?" in Morse code from the newly installed AFA, indicating things were percolating. Actually, what the AFA was asking me was "at what speed do you want to have your operating frequency reported?" The operator has the option of keeping the AFA at 13-wpm, or, with a press of the pushbutton, increasing to 26-wpm.

Once that preliminary bit of housekeeping is taken care of, it's time to tune around the band. At any time, the listener can press the front-panel AFA button to hear what frequency he's landed on.

My SOP Receiver kit tunes about 100 kHz of 40 Meters — from just below 7.000 to 7.098 MHz. That suits my 40-meter CW operation needs nicely. Coverage can easily be adjusted by altering the value of a fixed capacitor in the local oscillator circuit.

How accurate is the AFA? On the first night of listening from my west coast QTH, I ran across W1AW's code practice session, beaming here from Newington, CT. It was S-9 in the headphones, indicating the pains taken in assuring the SOP's selectivity were not done at the expense of sensitivity. With W1AW singing from the headphones, I pressed the AFA and was greeted with "7047" in Morse — right on the money, according to the W1AW schedule carried in *QST* magazine.

Combining the SOP Receiver with the renowned Tuna-Tin 2 transmitter has provided many hours and several log pages of contacts in the last month or so on 40 Meters. The NJ QRP Club, and especially Joe Everhart and George Heron, N2APB, have done a great job with this kit. It's a simple and rewarding way to get started in QRP CW, as well as a blast-from-the-past for oldtimers.

The SOP receiver enclosure

The NJ QRP Club SOP Receiver kit can, of course, be put in just about any housing that will accommodate its PC board. But the club has given builders the opportunity to skip the guesswork with its custom enclosure kit.

Eight pre-cut and pre-drilled pieces of doublesided PC board are soldered together to form the cabinet. While small soldering irons will do the job, at KI6SN a 40-watt pencil was used to complete the job in about 15 minutes.

A front panel comes with holes drilled for receiver tuning and audio gain on the right and left side respectively. A hole in the center is for the audio frequency annunciator (AFA) pushbutton.

Across the back panel there are holes for headphones, power, antenna and keyline muting.

The front and back panels are tack soldered to the bottom plane of the chassis, and held rigid with narrow side rails — also made of doublesided PC board. When all of the pieces are soldered it makes a very rigid and attractive unit.

Next, we add the top lid, which consists of three pieces of PC board. There's a top plane and two side planes. Again, all are soldered rigidly together. When completed, the builder positions the lid atop the chassis unit housing the PC board and — voila! You've got one sturdy and good-looking receiver.

Purchasing the kit

The SOP Receiver kit is available from the NJ QRP Club with various pricing options based on the add-ons you may wish to include: + Basic SOP Receiver kit, $30 plus $4 shipping + Homebrew PCB Enclosure Option, $7

+ Controls Hardware Option, $10

+ FREQ-mite Audio Frequency Annunciator Option, $10 + DX orders add an additional $3 for shipping.

For more information, go to the club's web site: www.njqrp.org To order, send a check or money order made out to: "George Heron, N2APB" to his home address — 2419 Feather Mae Court, Forest Hill, MD 21050.

As "Seat Of the Pants" projects go, I think you'll be pleasantly surprised.

— Richard Fisher, KI6SN can be reached at: 1940 Wetherly Way, Riverside, CA 92506, or you can e-mail him at: ki6sn@aol.com

Roll your own

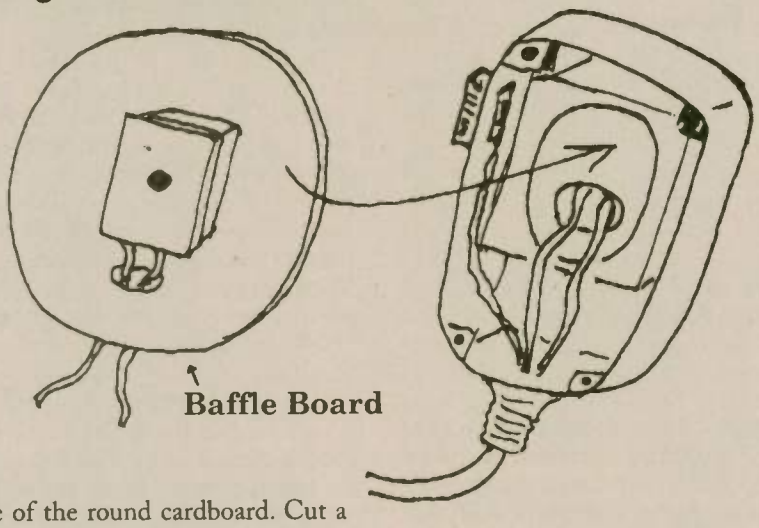
Most Amateur Radio stations have several microphones stashed away in the bottom of a drawer — usually after all of your buddies ran you off the frequency until you got a different microphone. So you just keep plugging the old relics you bought at yard sales hung on the end of a CB rig — into your Kenwood until they stopped screaming at you.

Well, friend, those old jewels can be resurrected and will help you put a very respectible, if not one of the articulate signals, on the frequency. The center piece of your new microphone will be one of the dynamic HC-5 'Key Elements' from Heil Sound. Being only about as big as a postage stamp, it can easily fit into most microphone housings.

But there is a warning!

It has been proven in the laboratory that many of the hand microphones that sound bad do so because they have no baffle board. Their elements are suspended or 'floating' inside the clam shell. This creates a very hollow sound due to the phase cancellation that occurs without some type of baffle board. Here's how to remedy that hollow sound.

You will need to 'borrow' the top of one of your wife's shoe boxes — she won't miss it since there's probably another 55 of them in the bottom of her closet. Unscrew the two 'clamshells' of the microphone. Most of the hand microphones have a round portion dedicated to a large old rattling sounding cartridge. Remove that. Clip or unsolder it's wires. Then cut a piece of that stiff cardboard from the shoebox to fit the inside of the microphone making a very nice sound baffle board for the new 'Key Element'.



Hot glue the back of the element to one side of the round cardboard. Cut a small hole for the wires to pass through. Carefully — very carefully, with a small soldering iron, solder the two wires back onto the new element feeding them through the small hole. Seat that baffle board with the new element in place and assemble the clamshell. You are back in business with a new articualte microphone.

This same proceedure can be used with old hand microphones just as easily. I am certain that you probably will be able to find several old dead microphones around and this simple rebuild will put them all back into place. When adjusting your mic gain with the new HC-5 Heil 'Key Element' keep in mind that those are communication microphone elements are purposely designed to be 10 dB less in gain than a 'stock' microphone — which usually has TOO much gain. You will discover that the new 'Key Element' will not pick up your blower noises, TV set in the other room, etc. since the gain is down -10 dB. You WILL have to run the mic gain around 3/4 open to get proper ALC, but that is no problem, it is what GAIN is all about!

Good luck in your rebuild project and have fun with your new articualte audio. You just may work a few more countries!

Daily solar flux

The underlying theme of last month's column was that we have a lot of solar and ionospheric information available to us, and this information is pretty much on a real-time basis (at least compared to the information that we could get a decade ago). Most of the time this real-time information is put to good use. Last month's topic was a good example — it showed how we could be forewarned of solar storms. That also put us on notice for possible 6-meter openings due to increased ionization.

What I'm specifically talking about is the use of daily solar flux in our propagation prediction programs. I receive several DX and propagation bulletins, and they all report in some form the daily solar flux and/or the daily sunspot number. One of the propagation bulletins I receive suggested rolling your own predictions. I'm all for that. But what raised my eyebrows was the statement that said to get the current solar flux from WWV at 18 minutes past the hour and use that for input into the propagation program. Let's take a little deeper look into this.

Q. What's the problem with using daily solar flux?

A. The problem is with the word 'daily'. The model of the ionosphere in our propagation prediction programs was purposely developed as a monthly model.

Q. Why is that?

A. The model of the ionosphere comes from many years of ionosonde data. It was quite evident to the guys developing the model that the ionosphere varied quite a bit on a daily basis within a given month. It was also known that the sun was quite variable on a day to day basis. So their job was to come up with a way to correlate all this ionospheric data with its day-to-day variability to some measure of the sun's radiation with its day-to-day variability. They found the best fit to be between monthly median ionospheric parameters and smoothed sunspot number.

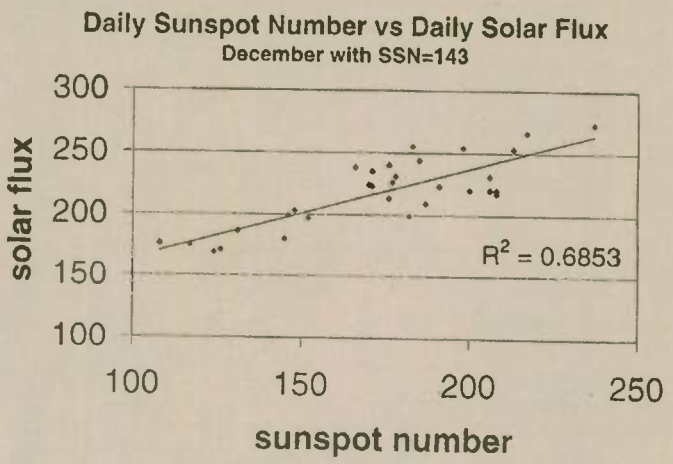


Figure 1 Daily sunspot number versus Daily solar flux.

Q. What does 'monthly median' mean?

A. Monthly median means it occurs on at least half the days of the month. When your propagation program spits out a MUF (maximum usable frequency) or signal strength value, it is a monthly median value, which is what's expected to occur on at least half the days of the month.

Q. What is a 'smoothed' sunspot number?

A. The smoothed sunspot number (SSN) is a 12-month running average of the monthly average sunspot numbers. It is calculated by averaging the monthly average for the month in question with the monthly averages for five months on either side, plus half the sixth month on either side.

Q. How does solar flux fit in?

A. An alternative measurement to sunspots is solar flux at 2800 MHz (10.7cm). It is very objective in nature, as it is a measurement made with readily available equipment. But this is tempered with the fact that solar flux at 10.7cm is about one million times less energetic than the true ionizing radiation, ultraviolet, that is associated with sunspot regions. Thus solar flux at 10.7cm has nothing directly to do with the ionizing process. But the atmosphere is transparent at this wavelength, so 10.7cm solar flux is an easy and convenient measure of the general activity of the sun.

Q. So you're saying that solar flux doesn't track sunspot number?

A. On a daily basis, that's what I'm saying. Figure 1 is a scatter diagram of the solar flux and sunspot number on the same day for a December month near the peak of a solar cycle. If they tracked perfectly,

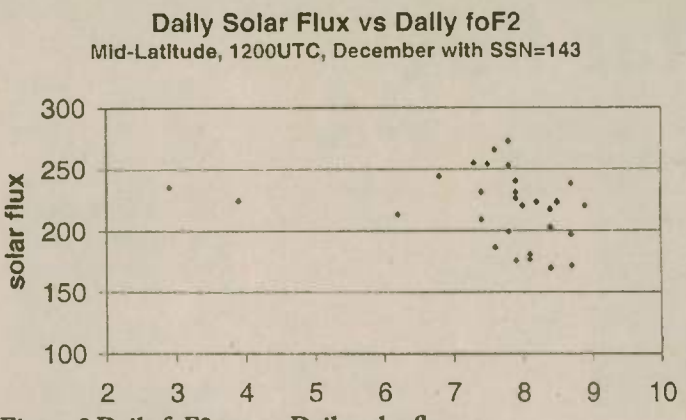


Figure 2 Daily foF2 versus Daily solar flux

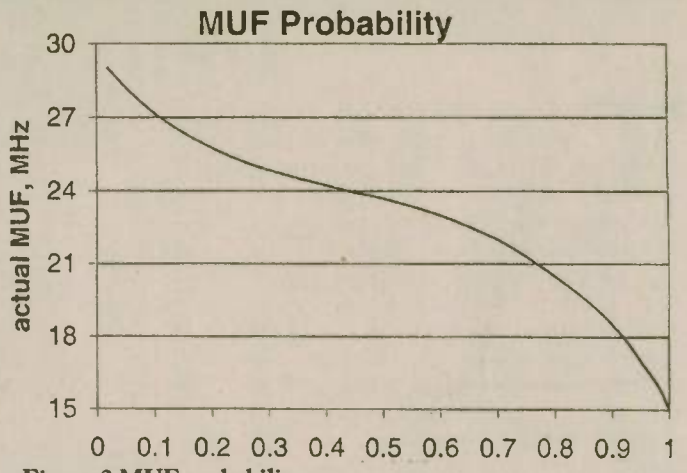


Figure 3 MUF probability

all the data points would fall on a straight line. The R squared value on the plot is an indication of how well correlated the two parameters are: Ø is no correlation and 1 is perfect correlation. The correlation is decent, but it could be better. If one plotted smoothed solar flux against smoothed sunspot number (the 12-month running average concept discussed earlier), there would be a much better correlation.

Q. Earlier you said that the model of the ionosphere in our propagation programs was based on a correlation between monthly median ionospheric parameters and smoothed sunspot number. How bad is it if I use daily solar flux or daily sunspot number?

A. Figure 2 is a scatter diagram of foF2 (the F region critical frequency) at 1200UTC on each day of the referenced December month (which had an SSN = 143) versus the solar flux on that day. It should be obvious that there is very little correlation between these two parameters. In fact, on those days with a solar flux of about 225, the F region critical frequency could be anywhere from 6.0 to 9.0 MHz. And that's even throwing out those disturbed days with foF2 less than 4 MHz. With the F region MUF about three times higher than foF2 for low elevation angles, this translates to a MUF anywhere from 18MHz to 27MHz for the same solar flux.

Q. Ok, I'm convinced. I should use SSN (or smoothed solar flux) for input to my propagation prediction program. But I'm still a little unclear on the median and probability stuff. Could you explain?

A. The best way to do that is to use the foF2 data in Figure 2. Since December has 31 days, there are 31 values of foF2 in that plot (only 29 are seen, as two are the same foF2/solar flux pair). From those 31 foF2 values, the median is found to be 7.9 MHz. That means 15 of the foF2 values are below 7.9 MHz and 15 are above 7.9 MHz. If we ran a propagation prediction for 1200UTC for a December with an SSN = 143 with the location at which this data was measured as the mid-point of a 2,500km path, the prediction program would report a monthly median MUF of 23.7 MHz.

Q. I think I understand that. But how much above and below the median will the actual MUF vary?

A. This information is contained in tables of MUF variability, which depends on SSN, time, season, and latitude, and came out of all those years of ionosonde data. How we see this in our programs is through the probability given for each band. For example, IONCAP reports this as 'F-days' for each band and MINIPROP PLUS 2.5 reports this as 'availability' for each band in letter format. Using the MUF variability tables, I calculated the entire probability curve for December at 1200UTC. Figure 3 shows this. From this plot, we can see that 20 Meters is a sure thing — it should be open every day (1.00 times 31). 17m should be open on 28 days (.90 times 31), 15m should be open on 24 days (.77 times 31), 12m should be open on nine days (.28 times 31), and 10 Meters should be open on one day (.03 times 31).

Q. And since signal strength is also a median value, a similar curve could be generated for it, right?

A. Right. There are tables of signal strength variability from which this is derived.

Q. So what are the two most important concepts that I should remember about propagation prediction programs?

A. That they were designed on a monthly basis using smoothed sunspot number or smoothed solar flux input, and they are not absolute in nature — they are statistical.

I hope this takes some of the mystery out of propagation predictions. Using SSN or smoothed solar flux gives results commensurate with the philosophy behind the development of propagation prediction programs. And understanding the statistical nature of the output is also important. With these two key points in hand, you may find them to be pretty accurate under quiet geomagnetic field conditions. I mention this as the accuracy really suffers on high latitude paths when the auroral zones are active. The present model of the ionosphere does not take a lot of high latitude issues into account. We'll look at the accuracy of high latitude predictions in a future column. — *Carl Luetzelschwab, K9LA, can be reached at: 1227 Pion Rd., Ft. Wayne, IN 46845 or e-mail: k9la@gte.net.*

The Doctor is in

QST's "Doctor" recently described a linear loaded dipole for 30 Meters. It looks to Kurt like a nice simple antenna that should work well if only it would stay up. It looks like a folded dipole, but with both wires cut in the middle.

In the pictorial drawing it is nicely suspended in the air as a "sloper." But if you build it like that, it will fall to the ground. What to do? Old Kurt to rescue!

Use two ordinary antenna insulators. When you cut the wires, use the insulators to splice the wires back together mechanically, but not electrically. Then it will stay up just fine and also take the strain off the coax that attaches to the center of the lower wire.

Actually, a purist like Krusty Old Kurt would put a few ferrite beads over the end of the coax to form a current balun. Any balanced antenna fed with "unbalanced" coaxial cable should have a balun to make sure no RF goes down the outside of the shield.

8 dB gain dipole

This time Kurt is going to show you how to make a dipole with 8 dB gain. Sound impossible? No, it's easy. All you need is some antenna wire, insulators and end supports.

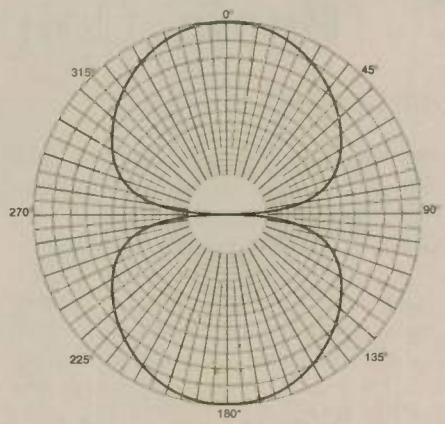
First decide what band you want the antenna to be for. Then cut the antenna wire to length according to this formula:

$$\text{length}_{\text{feet}} = \frac{468}{f_{\text{MHz}}}$$

Put an insulator on each end. Then cut the wire exactly in the center and put an insulator there. Connect your transmission line to the center. If you use coaxial cable put some #43 material ferrite beads on the cable just below where it attaches to the antenna. Without this current balun there may be radiation from the coax and you will not get the full gain.

Now raise the antenna. It should be at least 1/2 wavelength above ground. One wavelength is better.

And, Kurt forgot to warn you, the ground under the antenna must have conductivity of 10 mS/m or above. If it doesn't you will need to find a better location that does have really good ground. Most of the Central Plains is



alright, but if you live west of the Great Plains, or east of Dayton, you should find a nearby swamp, lakeshore, or seacoast to erect the antenna.

Gain calculation

By now you probably want to see just how this fabulous dipole provides the stated gain. Here it is:

A dipole has a gain of 2.15 dB over an isotropic antenna. Of course, isotropic antennas don't exist, but it is helpful to compare your antenna to one because you immediately get some gain without really having to do anything.

Next, if you put your dipole up high as Kurt has suggested, you get an additional gain from that part of the signal reflected from the ground. Over good ground, this can be 5.9 dB at certain elevation angles. Add these two gains together and you can see that this dipole has a gain of 8.05 dB over isotropic, that is, 8.05 dBi.

13 dB tribander

You thought Old Kurt was fooling you with that high gain dipole. It's just a plain old dipole just about like the ones thousands of Hams have in their backyards. Nothing special. Yes, you can show that it has 8 dB of gain by playing with the figures and moving dB's around from one kind to another but what's the point?

Here's the point: Krusty old Kurt moved dBs around to up the dipole's gain in exactly the same way that the Big Antenna Company gets those marvelous gains for their antennas. Kurt wants you to remember this when you leaf through that nice full-color catalog.

Let's look at one of the Big Antenna Company's antennas. It's a tribander for 10, 15 and 20 Meters with three active elements on each band. Now we know what the maximum gain over a dipole is for a three element beam (from reading the Antenna Book). It's 5.1 dBd.

But look closely at the specifications. They aren't talking dBds, they are quoting dBis. We already know that a dipole has a gain of 2.1 dB over an isotropic antenna. So already we have 5.1 + 2.1 = 7.2 dBi. See how easy that is — without even going outside to work on the antenna!

You'll also note that the beam is up in the air at one wavelength. That means it's up about 30 feet on the 10-meter band, 45 feet on the 15-meter band and 60 feet for the 20-meter band. Apparently the moveable tower is at extra cost. But by having the beam at one wavelength on each band, you get an additional ground reflection gain of 5.9 dB.

Simple arithmetic now shows that the tribander indeed has 13 dBi gain. Kurt wants you to remember, though,

that if you put it at the same height as your simple dipole the improvement will be just 5 dB. A real improvement but, nevertheless, 5 dB is not 13 dB.

Adjust your tuner

A short while ago, Kurt told you how to adjust your antenna tuner for best efficiency — start with both of the capacitors set at maximum capacitance. Next adjust the "antenna" or "load" capacitor and the coil to get minimum SWR. If this minimum is not 1:1 then reduce the capacitance of the "transmitter" or "input" capacitor somewhat and try again.

A reader says, "My tuner manufacturer says to do it differently. It sounds like tuners need to evolve further."

Wrong, wrong, wrong! There is no mystery to antenna tuners. Do it the way Kurt says and you'll get the highest efficiency possible. You'll get tuned up following the manufacturer's instructions but you won't get the most efficient setting. Trust Old Kurt; he knows!

If you think there is any "mystery" to antenna tuners, find a copy of the May 2000 *RadCom* (England's *QST*). In it, G3LNP explains in great detail how tuners work and describes a simple modification you can do to make yours even more efficient.

Product Review

ARRL Azimuthal Projection World Map

Bill Brigerman, W3AIR

Being a DX hound, I like to look at maps. However, I needed one that would quickly give me what I wanted to know. Where do I point my directional antenna for best results? Effective antenna pointing improves both transmitted and received signals when the DX starts rolling in. It helps reduce interference, too. A new ARRL world map hot off the press answered my question plus a lot more. Not long after I ordered map #7717, it arrived via UPS in a sturdy mailing tube. I was glad that it wasn't just folded and stuffed into an envelope. The full-color plastic laminated map immediately went up on the Ham shack wall using double-sided sticky tape. Its a big 27 x 39 inch map, enough to hide old paint and cracks in the wall.

The map is what cartographers call an azimuthal equidistant projection. This projection is very useful in finding great circle bearings. That is, in radio amateur land, any 0-360 degree angle between the earth's surface and a line running due north through your station location. With an azimuthal equidistant map, true bearings for great circle paths are straight lines from the center of origin to all points on the earth. It is generally assumed that ionosphere propagation follows a great circle path in its travel from a transmitter to a distant receiver.

An azimuthal projection is derived by mathematically projecting the earth's curved surface onto a flat plane tangent to the sphere at any point. It's like transforming a round golf ball into a flat pancake so that you can easily see DX bearings throughout the entire world. As one can well imagine, severe distortion results. With the ARRL map geographically centered on the United States, DX land has strange sizes and shapes for those accustomed to looking at a globe or in an atlas. The distortion gets worse the farther away from the center of projection. However, the big advantage of the projection is simplified bearing and distance information. The map, designed and produced for the ARRL by MapQuest Inc., has other goodies. There's world-wide call sign prefixes, *CQ* regions, time zones, latitude and longitude. Detailed windows are provided for both European and Caribbean countries.

Aside from casual eyeballing, the map can be made even more useful with just a length of string. Stretch the string taunt from the center origin and overlay it through the distant station location to the circular bearing scale printed around

Contests Chart

Contest	Date & Time	Bands	QSO points	Multipliers	Exchange	Entry Categories	Entries
Texas QSO Party	1400Z 30 Sep 2000Z 1 Oct (0500-1400 off-time for all)	80-2M CW & SSB	2pt/Phone QSO 3pt/CW/Digital QSO	Texas counties (254) Texas stations count Texas countiues, US States, Canadian Provinces and Territories	QTH	Single op, Fixed, Mobile, QRP, Assisted, CW only, Novice/Tech Multi-op, Fixed, Mobile, QRP	31 Oct 17007Hillview Spring TX 77379 Email K5VUU@arrl.net
RSGB 21/28MHz SSB (UK)	0700Z 1 Oct 1900Z 1 Oct	21150-21350 28450-29000	3pt/QSO Work UK stations only	UK Post Code areas UK stations will sendthe first two letters of their post code	RST Ser#	Single op, Single op QRP Multi-op single tx	14 Nov G3UFY
European Autumn Sprint SSB	1500Z 7 Oct 1859Z 7 Oct	80-20M SSB	1pt/QSO	None	your call, other stn's call, Ser#, name	Single operator only	15 days I2UIY
California QSO Party	1600Z 7 Oct 2200Z 8 Oct	160-2M CW & SSB	2pt/SSB 3pt/CW Work California only	California Counties (58)	RST Ser# QTH	Single Op, All bands Multi-op, single tx	15 Nov Box 853 Pine Grove CA 95665
Ibero-America Contest (Spain)	2000Z 7 Oct 2000Z 8 Oct	160-10M SSB	3pt/Ibero-Am 1pt/others	CE CO CP CR CT CX C3 C9 DU EA HC HI HK HP HR KP4 LU OA PY TG TI XE YN YS YV ZP 3C + their DXCC dependencies on each band	RS Ser#	Single op, all bands, QRP Multi-op single tx SWL	30 Nov Conception Arenal 5 08027 Barcelona
YLRL Anniversary Party CW	1400Z 11 Oct 0200Z 13 Oct	80-10M CW	1pt/QSO on your section 2pt/QSO with others	ARRL Sections, Canadian Porovinces and territories, DXCC countries	RST Section	Single Operator only	30 Days K0JFO
VK/ZL/Oceania CW	1000Z 14 Oct 1000Z 15 Oct	80-10M CW	3pt/10M 2pt/15M 1pt/20M 5pt/40M 10pt/80M work Oceania only	Oceania prefixes on each band Score each band separately, then sum scores from all bands	RST Ser#	Single op all bands Multi-op all bands SWL	6 weeks NZART Box 40-525 Upper Hutt
European Autumn SPrint CW	1500Z 14 Oct 1859Z 14 Oct	80-20M CW	1pt/QSO	None	your call, other stn's call, Ser#, name	Single operator only	15 days OK2FD
Pennsylvania QSO Party (USA)	1600Z 14 Oct 2200Z 15 Oct 05-13z Off time	160-10M CW & SSB	1pt/SSB 1 5pt/CW 2pt/160, 80M CW 200pt/QSO with W3YA Work Penn. only	Pennsylvania counties (67) Penn. stations will send a 3-letter county abbrev x2 if you are QRP	RST QTH	Single op, High power, 100w, QRP Multi-op, Single tx, multi-tx	15 Nov Box 614 St College PA 16804 USA
RSGB 21/28MHz CW (UK)	0700Z 15 Oct 1900Z 15 Oct	21-21 075 28-28 075	3pt/QSO Work UK stations only	UK Post Code areas UK stations will sendthe first two letters of their post code	RST Ser#	Single op, Single op QRP Multi-op single tx	14 Nov G3UFY
Worked All Germany	1500Z 21 Oct 1500Z 22 Oct	80-10M CW & SSB	3pt/QSO Work Germany only	German districts (first letter of DOK) on each band	RST Ser# DLs send DOK	Single Op, Both or single mode, QRP Multi-op, single tx SWL All entrants may use PacketCluster	1mo Box720 427 D-10123 Dresden
YLRL Anniversary Party SSB	1400Z 25 Oct 0200Z 27 Oct	80-10M SSB	1pt/QSO on your section 2pt/QSO with others	ARRL Sections, Canadian Porovinces and territories, DXCC countries	RST Section	Single Operator only	30 Days K0JFO
CQ WW DX SSB	0000Z 28 Oct 2359Z 29 Oct	160-10M SSB	0pt/VE 2pt/NA 3pt/DX	DXCC + WAE countries + CQ Zones	RS CQ Zone	Single Op, All Bands, Assisted, Low power, QRP, Single band Multi-op, Single of multi-tx	1mo CQ mag
ARRL Sweepstakes CW	2100Z 4 Nov 0300Z 6 Nov	160-10M CW	2pt/QSO Work stns once, regardless of band	ARRL Sections Count once, regardless of band	Ser#, Pwr class, ur call, Yr first licenced, Section	Single Op, Low power (A), High Power (B), QRP (Q) Multi-op single tx	1mo ARRL Email to SSCW@arrl.org
Japan Int'l DX	2300Z 10 Nov 2300Z 12 Nov	80-10M SSB	1pt/QSO 2pt/80, 10M Work Japan only	Japanese Prefectures (50) on each band JAs will send a 2-figure prefecture number	RST Ser#	Single Op, All bands, Single band Multi-op, single tx	31 Dec Box 59 Kamata Tokyo 144
European DX RTTY (Germany)	0000Z 11 Nov 2359Z 12 Nov	80-10M RTTY	1pt/QSO 1pt/QTC In RTTY contest, work stations outside Europe	WAE Countries worked on each band x2 on 10/15/20 x3 on 40M x4 on 80M	RST Ser#	Single Op, All bands, Single band Multi-op, Single or multi-tx All entrants may use PacketCluster	15 Dec Box 1126 D-74370 Sersheim Germany
OK/OM DX Contest (Czech Republic)	1200Z 11 Nov 1200Z 12 Nov	160-10M CW & SSB	3pt/QSO Work OK, OL and OM only	Czech and Slovak counties on each band OKs, OLs and OMs send a 3-letter county abbreviation	RST Ser#	Single op all bands, Mixed mode, CW, SSB, QRP Multi-op SWL	15 Dec OK2FD
Ukrainian DX	1200Z 11 Nov 1200Z 12 Nov	80-10M CW & SSB	1pt/VE 2pt/NA 3pt/DX 10pt/Ukraine	DXCC + WAE Countries + Ukrainian Oblasts (27)	RST Ser# Ukr. send Oblast#	Single Op, All bands, Single band, All band QRP, Single band QRP Multi-op, Single or multi-tx SWL	1mo Box 4850 Zaparozhye 330118 Ukr

Addresses: CQ - 25 Newbridge Rd., Hicksville, NY 11801 USA ARRL - 225 Main St., Newington, CT 0611 USA Callsign - Callbook Address
Bands: The 30, 17 and 12M bands are necer used in any contest. Please confirm the dates of these events on the Internet at: http://home.sol.no/~janame/hammain.html or www.sk3bg.se/contest

the map perimeter. That's where you should point your antenna for the short path route. The bearing scale is divided into 1-degree increments. Accuracy is best if you live in call area "Ø", the geographic center of the United States. Propagation permitting, you can also try the long path by simply considering 180-degree reciprocity. Your string can be used to judge distance. Put marks on it with a pen to indicate distance in statute miles or kilometers. Measurement scales are provided on the map. Distances not measured along the radii won't be correct.

Bottom line: If you can put up with the inherent big white glob showing Antarctica, this map is for you. ARRL Radio Amateur Map of the World #7717 at $12 plus $3 shipping/handling is a very practical and attractive addition to any DX'ers shack. Expect more 5-9 reports. No explaination of the map projection or how to use it are supplied. It also would have been nice if the map origin were shown by a prominent cross hair. I added one.

To order, call 888/277-5289 Monday - Friday, 8 a.m. to 8 p.m. (eastern time). Fax 860/594-0303, 24 hrs a day, 7 days a week. Or write to ARRL, 225 Main St. Newington, CT 06111-1494, or order on the web at: www.arrl.org/shop.

ARKANSAS

Northwest Arkansas ARC Hamfest 2000 at Jones Center for Families, 922 E. Emma Ave, Springdale, AR. Open 7 - 9 p.m. 13 Oct., and 8 a.m. - 3 p.m. 14 Oct. Adm. $5. Tables $6, Tailgate $4. Vendors, traders, forums, refreshments, VE exams and prizes. For info: Northwest Arkansas ARC, P.O. Box 24, Farmington, AR 72730; or call Richard Naylor, K5LRS; 501/442-8932; e-mail; k5lrs@aol.com.

CALIFORNIA

PACIFICON Hamfest 20-22, October, at the Sheraton Hotel in Concord, CA. Exhibits open Saturday and Sunday at 9:00 a.m. Adm. $5/adv., $10/door. VE exams, dealers, exhibits, seminars, swap. For info: PACIFICON 2000, P.O. Box 272613, Concord, CA 94527. Telephone: 925/932-6125. E-mail: tickets@pacificon.org. Website: http://www.pacificon.org.

CONNECTICUT

The Nutmeg Hamfest & Computer Show, on 8 Oct., from 9 a.m. - 3 p.m., at the Mountainside Special Event Facility(High Hill Rd., Wallingford, CT). Admission: $6. Tables: $25. Tailgating: $15. For more info: www.qsl.net/nutmeghamfest. Email: nutmeghamfest@qsl.net

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Tri-City ARC will be holding an auction on 21 Oct., starting at 10 a.m, at the Senior Citizens Center, Waterford Municipal Complex. Set-up at 9 a.m. Talk-in: 146.97. For more info: Austin J. Wolfe, AA1SV 860/443-2459. Email: aa1sv@downcity.net.

FLORIDA

The Lake Amateur Radio Assn. Hamfest & Computer Show on 28 - 29 Oct., at the Olde Mill Stream RV Resort(1000 N. Central Ave., Umatilla, FL 32784). Admission: $5. Tables: $10. Tailgating: $7. VE exams @ 10 a.m. Talk-in: 147.255. For more info: Chuck Crittenden, KE4EXM, P.O. Box 615, Altoona, FL 32702. Phone: 352/669-2075. Email: capias@gate.net.

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The Egypt (Shrine) Temple Amateur Radio Association Ham/Computer Fest 2000 on 14 Oct., from 8 a.m. - 5 p.m. at 4050 Dana Shores Dr., Tampa Fl. Admission: $5 advanced, $6 at door. Tables: $15. Tailgating: $15. VE exams @ 1300 Hrs. Talk-in: 146.940. For more info: Jay Storm 727/822-9107. Email: K9BSL@juno.com.

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The Greater Jacksonville Hamfest, on 28 Oct., at the Morocco Shrine Auditorium. VE exams will be given. For more info: Jeff Greer WD4ET 904/613-7427 or Deborah Lusk KG4ADZ 904/739-9713. Website: http://www.ccse.net/~lrich/JAXHAMFEST.html.

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ARC Bradford Area's Home town Hamfest, will be on 13 - 14 Oct., in Waldo, FL. Addmission: $4. Table: $5. RV parking with hookups, Contests and a Country Resturant available. For info: John Bradley, 2363 nw cr 225 Lawtey, FL 32058. Phone: 904/782-1185. Email:jbradley@techcomm.net. Website: http://www.angelfie.com/fl/arcba/index.html.

ILLINOIS

The Chicago ARC Hamfest on 8 Oct., from 8 a.m. - 1 p.m., in Oakbrook Terrace, IL. Admission: $4 advanced, $5 at door. Bring your own tables. For more info: George 773/545-3622 10 a.m. - 1:30 p.m. or after 3 p.m. or Dean 708/331-7764 mornings or evenings. CARC, P.O. Box 410535, Chicago, IL 60641-0535.

IOWA

The Muscatine ARC & Iowa City ARC are sponsoring the Southwest Iowa Hamfest 2000, on 1 Oct., at the West Liberty Fairgrounds(West Liberty, IA). Admission: $5. Tailgating FREE w/ adm. Eletricity: $5. There will also be Prizes, Food, Vendors/Dealers, VE exams. For info: Tom Kramer, K0VSV, 905 Leroy St., Muscatine, IA 52761. Phone: 319/264-3295. Email: tkramer@muscanet.com.

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The Mount Diablo ARC's Pacificon' 2000 on 20 - 22 Oct., at the Sheraton Hotel(next to Concord's Buchanan Airfield. Admission: $5 advanced, $10 door. Talk-in: 147.06+ PL 100hz. VE exams, swapmeet, T-hunt, forums, prizes, and more. For more info: Pacificon 2000, P.O. Box 272613, Concord, CA 94527. Phone: 925/932-6125. Email: Paccon00@pacbell.net. Website: http://www.pacificon.org.

LOUISIANA

The Southwest LA Amateur Repeater Club(W5BII) Swapfest 2000 on 21 Oct., 8 a.m. - 4 p.m. at Habibi Shrine Temple. Admission: FREE. Table: $15, w/ power $20. VE exams @ 10 a.m. Talk-in: 146.730 P/L removed. For more info: Ron Phelps, KC5FGO, P.O. Box 7244, Lake Charles, LA 70606. Phone: 337/625-5554. Email: kc5fgo@structurnex.net.

MICHIGAN

USECA Ham/Computer Swap 8 a.m. - 1 p.m. 22 Oct. at Italian American Cultural Center, (I-696 exit at Hoover, north 1 mi to 12 Mile Rd., east to Imperial drive) Warren, MI. Adm. $5 (under 11 FREE). Table $15, additional tables $10 each. Seminars, VE exams, breakfast and lunch available. TI: 147.180(+ 100pl). For info: Dave Cunningham, 35618 Rutherford, Clinton Twp., MI 48035; telephone 810/791-2720; e-mail: kc8iaq@arrl.net, or Nancy Carr, 5348 Bart Dr. Casco, MI 48064, telephone 810/749-3383; e-mail qms03@earthlink.net. Web site: http://www.useca.org.

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The Utica-Shelby Emergency Communication Assn. Swap & Shop, on 22 Oct., at the Italian Cultural Center(Warren, MI). Admission: $5. Table: $15 additional tables $10. VE testing @ 9 a.m. Seminars will be given. For more info: Dave Cunningham, KC8IAQ 810/791-2720, 35618 Rutherford Clinton Twp., MI 48035. Email: kc8iaq@ameritech.net.

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The LCDRA & CMARC Hamfair, on 8 Oct. from 8 a.m. - 2 p.m., at the Summit. Admission: $5 advanced, $6 at door. Tables: $10.50 advanced. $12.50 at door. VE exams(info at n8vys@voyager.net). Talk-in: 145.390- & 146.52. Forums. For more info: J. Ervin Bates, W8ERV, P.O. Box 80106, Lansing, MI 48908. Phone: 517/676-2710. Email: w8erv@arrl.net.

MISSOURI

The St. Louis ARC and kid's Gateway to Ham Radio Club's Halloween Hamfest, will be on 28 Oct., from 8 a.m. - 2 p.m., at the Kirkwood Community Center(111 N. Geyer Rd.). Admission: FREE. Tables: $15 commercial, $8 other. Talk-in: 146.91. For more info: Steve Welton, WB0IUN, 9847 Arv-Ellen, St. Louis, MO 63123. Phone: 314/638-4959.

NEW JERSEY

The Garden State Amateur Radio Assn. Hamfest 2000. On 14 Oct., at the Croydon Hall(Leonardo, NJ). Admission: $5 advanced, $6 at door. Table: $10, additional spaces $8. VE exams @ 10 a.m. Talk-in: 145.485 -6, 151.4. For more info: G.S.A.R.A. c/o Mario Sellitti, P.O. Box 286, Keansburg, NJ 07734. Web: http://www.monmouth.com/~gsara. Email: n2pvp@arrl.net. Phone: 732-787-7184.

NEW YORK

The Hall of Science ARC Hamfest, 15 Oct., starting at 9 a.m., at the New York Hall of Science parking lot(Flushing Meadow Corona Park, 47-01 111th St., Queens, NY). VE exams @ 10 a.m. Admission: $5. Tables: $10. Talk-in: 444.200 PL 136.5 or 146.52. For more info: Stephen Greenbaum WB2KDG 718/898-5599. Email: WB2KDG@bigfoot.com.

OHIO

Massillon ARC Hamfest 8 a.m. 29 Oct. at Stark County Fairgrounds, (I-77 to downtown Canton, follow W. Tusc or 4th St west to fairgrounds) Canton OH. Adm. $4/adv., $5/door. Tables $10/with power. TI: 147.18(+). For info: Terry Russ, N8ATZ, 3420 Briardale Cr., Massillon, OH 44646, tel; 330/837-3091, e-mail: marc.hamclub@juno.com or web site: www.qsl.net/w8np.

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Medina County Hamfest 8 a.m. - 2 p.m., 08 Oct., at the National Guard Armory (920 W. Lafayetter Road, 1/2 mile west of Fairgrounds) Medina, OH. Adm. $4/adv., $5/door. Tables $9/adv., $10/door. Limited flea market space. VE exams, door prizes. For VE exam info: Fred, 440/236-3477. For general info: Mike, 330/273-1519, or web site: www.qsl.net/m2m.

OKLAHOMA

The Texoma Hamarama 2000 on 27 - 28 Oct., at the Lake Texoma Resort. Admission: $5. Tables: $15. Talgating: $5. Forums, VE testing, Screwdriver antenna building,

All programs on Sat. For more info: Herb Slepper, 8144 Carriage Ln., Wichita Fall, TX 76305. 940/855-5820. Email: retmarine@cst.net. Web: www.wf.net/~ka5crl/hamarama.htm.

OREGON

Mid-Valley ARES Swap-Toberfest and ARES Convention, 21 Oct. 9 a.m. - 3:30 p.m. at Polk County Fairgrounds in Rickreall, Oregon. Adm. $5/adv, $6/door. Tables $13, $15/w power. Commerical vendor space (2 tables) $25. Seminars, meetings and display of communications vehicles from several agencies. Self-contained RV spaces available for $10 per night. TI: 146.86 rptr. For info: Bud Smith, WA7FJF, 503/838-0266; e-mail; wa7fjf@arrl.net or see the web page: www.teleport.com/~n7ifj/swaptobe.htm.

PENNSYLVANIA

The Red Rose Repeater Association's Tailgate Fest, will be on 7 Oct., at the West Earl Community Park(Brownstown, PA). Admission: FREE. Table: $3. Come and join the fun and swap your gear and Ham stories. All electronics(computers included) and radio gear welcome. For more info: Dave, W3CWE 717/872-6578. Email: jjcd@prodigy.com.

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The RC Hill ARC Hamfest, will be on 22 Oct., at the Sellersville Fire House. Admission: $5. Tables: $12 inside, $6 outdoors(bring your own table). Talk-in: 145.31. VE testing @ 10 a.m. - 1 p.m. For more info: Linda Erdman, 215/679-5764, 2220 Hill Rd., Perkiomenville, PA 18704. Website: http://www.rfhill.ampr.org.

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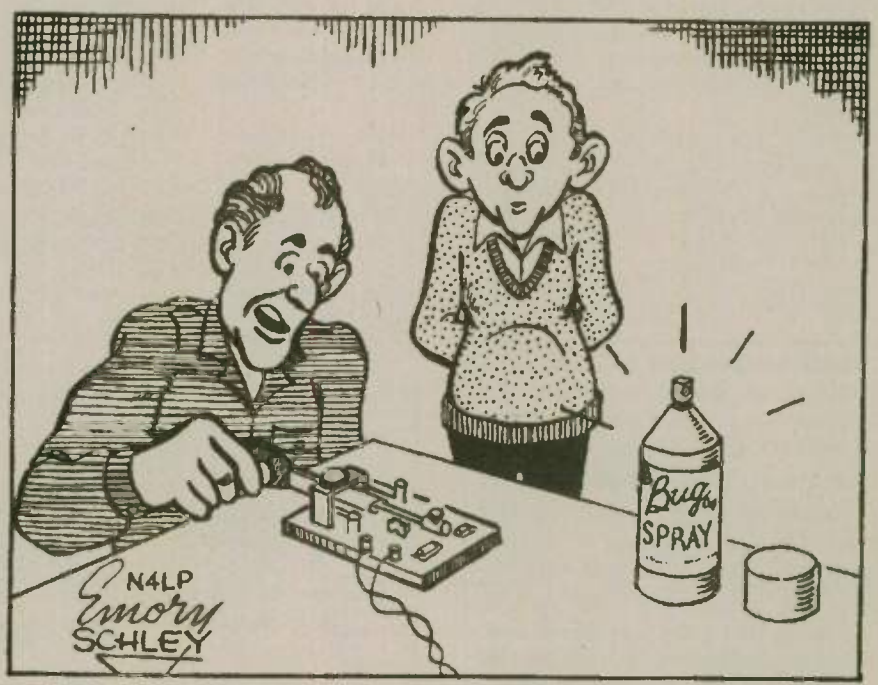
Susquehanna Valley ARC Computer/Electronics/Amateur Radio show, 8 a.m. - 3 p.m. 21 Oct. at Sunbury National Guard Armory (From I-80, exit Tr. 15 S. or 147 S. to Sunbury. Front St. to Reagan, to Catawissa Ave.). Adm. $4, Inside tables $15, outdoor space $5. Lots of new and used electronic equipment. TI: 147.270 repeater or 146.250 simplex. For info: call 570/286-2086; e-mail fhac@mail.com or k3si@hotmail.com. Web site: http://avs.epix.net/svarc/.

TENNESSEE

Kingsport/Bristol/Johnson City Radio Clubs Tri-Cities Hamfest 21 Oct. at Appalacian Fairgrounds (off I-181) in Gray, TN. Adm. $5 Large drive-in indoor and outdoor flea market space is available. For info: P.O. Box 3682 CRS, Johnson City, TN 37602.

WASHINGTON

The North Kitsap ARC Hamfest, on 14 Oct., from 9 a.m. - 3 p.m., at the Kitsap County Fairgrounds. Talk-in: 146.62(-) PL 103.5- or 146.52. Admission: $5(12 and under FREE). Tables: $20. Commercial Space: $30. $2 for electricity at your table. For more info: Marcie Stilwell, KC7DAT, P.O. Box 2268, Silverdale, WA 98383-2268. Phone: 360/697-2797. Email: nkarc@yahoo.com. Web: www.silverlinkg.net/nkarc.



This bug feels a bit gummy — What have you been lubricating it with?

New Products

Information in "New Products" is supplied by the manufacturers to acquaint ***Worldradio*** *readers with new products on the market.*

New MFJ contest voice keyer

MFJ Enterprises, Inc. has introduced a new contest voice keyer, specifically designed to ease operating for those entering SSB contests. This microprocessor controlled keyer can store messages in your own voice, virtually eliminating the strain on your voice that's usually the result of endless talking and calling during a contest. This new keyer will store frequently used phrases like "CQ contest this is WZØZZZ", or "Your 5-9 Wyoming." You can repeat messages continuously and vary the repeat delay from 3 to 500 seconds. The built-in speaker-amplifier lets you monitor stored messages and you can record and play back five messages in your own voice for a total of 75 seconds. Your messages are recorded on an EEPROM chip, no battery required, and they will still be there for the New Year's celebration — 2100!

Your outgoing message can be stopped at any time by pressing the "stop" button, your PTT microphone button, or by your VOX PTT line. The contest voice keyer also has a receive audio jack so you can record and play back off-the-air signals — you can play back those weak signals to confirm correct copy!

This new keyer has a jack for remote or computer control (using CT, NA or other programs and their interfaces). All of the audio lines are RF filtered to eliminate RFI, audio feedback and distortion. An audio isolation transformer totally eliminates hum and distortion caused by ground loops.

The MFJ 434 Contest Voice Keyer is easy to connect to your rig — just plug in your eight pin microphone cable and plug the MFJ-434 shielded cable into your transceiver's microphone connector. Internal jumpers let you customize it for Kenwood, Icom, Yaesu, Alinco or RadioShack rigs. You use your station or built-in microphone for recording.

Power can be supplied with the optional MFJ-1312B power supply (MFJ-1312B, $14.95), or with a nine volt battery. There's a remote control head with cable (MFJ-73) available for $29.95.

Suggested retail price of the MFJ-434 Contest Voice Keyer is $179.95.

Regulated power supplies

MFJ Enterprises, Inc. now has two new regulated power supplies for running those 12 VDC rigs and accessories in your shack.

The MFJ-4322 delivers 22 amps surge and 20 amps continuous at 13.8 VDC. With its massive transformer, heat-sink and heavy duty construction, it weighs in at over 19 lbs. But it's still compact in size at 8" wide X 4 3/4" high and 11 3/4" deep.

The MFJ-4312 delivers 12 amps surge and 10 amps continuous at 13.8 VDC, and weighs 13 1/2 lbs. The case is 8" wide X 4 3/4" high and 10 1/4" deep.

Each of these power supplies is fully protected with over voltage protection, fold back short circuit current limiting and over-temperature protection. They have a pair of heavy duty 5-way binding posts for high current transceivers and a cigarette lighter socket for mobile accessories, easy-access fuse and a lighted front-panel on/off switch. Both of these new power supplies are highly regulated with load regulation better than 1.5%. They have extremely low ripple voltage — less than 40 mV (MFJ-4312) and 60 mV (MFJ-4322).

Suggested retail price for the MFJ-4322 20 Amp regulated power supply is $99.95. The MFJ-4312 10 Amp regulated power supply is $69.95.

All of these MFJ products are covered by the famous No Matter What™ one year limited warranty. MFJ will repair or replace these products for one full year.

To order or to find you nearest dealer, call: 800/647-1800; fax 662/323-6551 or write to MFJ Enterprises, Inc. P.O. Box 494, Mississippi State, MS 39762. E-mail: mfj@mfjenterprises.com, or see the web site: http://www.mfjenterprises.com.

VE Exams

As a service to our readers, ***Worldradio*** presents a feature listing of those VE exams, times and locations which are sent to us. Please remember that our deadline for publication is three months in advance. For example, if your VE group is scheduling an exam for December, please have the information to us by mid-September. ***Worldradio***, 2120 28th St., Sacramento, CA 95818. Please mark the envelope "VE Exams." List the location (City), any information examinees should have (advance registration, etc.) and the name and telephone number of a person to contact for further information. Examinees should bring their original license (along with a photo copy), two forms of identification (at least one should be a photo), and required fee.

p/r pref=pre-register preferred but w/i OK
p/r=pre-register only—no w/i
w/i=walk-in only
w/i pref.=w/i preferred to p/r

State	City	Contact	Notes
Alabama			
10/03/00	Mobile	David, WA4AVC 334/649-5229	p/r pref
10/09/00	Montgomery	Steve, K4NM 334/271-9603	w/i
Arizona			
10/14/00	Tucson	Joe, K7OPX 520/886-7217	w/i only
Arkansas			
10/28/00	Gassville	Phil, AB5ZU 870/425-7406	p/r pref.
California			
Hotline	Carmichael	Info Hotline: 916/492-6115	w/i
10/26/00	Colton	Harold, AB6RN 909/825-7136	p/r pref.
10/28/00	Culver City	Scott, K6PYP 310/459-0337	w/i
10/07/00	Culver City	Clive, AA6TZ 310/827-2538	w/i pref.
10/28/00	Escondido	Harry, WA6YOO 760/743-4212	p/r only
10/09/00	Fremont	Dennis, K6DF 408/255-9000	w/i only
10/07/00	Petaluma	Dale, 707/762-9414	w/i ok
10/08/00	Sacramento	Dick, 916/383-2113	p/r only
10/14/00	San Pedro	Elvin, N6DYZ 310/325-2965	p/r pref.
Hotline	Santa Rosa	Hotline - Recording, 707/579-9608	w/i ok
Hotline	Sebastopol	Recording, 707/579-9608	
10/21/00	Stockton	Mark, W6DKI 209/465-7496	w/i
10/14/00	Sunnyvale	John or Gordon 408/255-9000	w/i only
10/14/00	Ventura	George, KN6LA 805/388-2488	p/r
Connecticut			
10/17/00	Middletown	Paul, K1PL 860/635-1742	p/r pref.
10/14/00	Newington	Dan, K3UFG 860/206-3379	p/r pref.
Florida			
10/12/00	Ft. Myers	Leonard, KC4GOA 941/694-2505	w/i
call	St. Pete	Mark, NP3R 727/528-0071	w/i pref.
Idaho			
10/14/00	Boise	Fred, KB7GZU 208/375-2061	w/i pref.
10/25/00	Grangeville	Larry, AB7GY 208/983-2163	w/i pref.
Illinois			
Anytime!	Burr Ridge	Deni, W9DS 630/986-0061	p/r
10/09/00	Libertyville	John, W9EM 847/223-3357	p/r pref
10/14/00	Oak Forest	Dave, NF9N 708/226-1570	p/r pref.
10/21/00	Rockford	Rusty, WB9QYV 815/968-0080	w/i pref
Indiana			
10/12/00	Goshen	Lyle, N1LL 219/857-8455	
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Hurricane net activates, but Debby's a dud

As Debby twirled in the Atlantic, the Hurricane Watch Net activated for the first time in the current hurricane season. The Net began operation on 14.325 MHz as Debby, then a tropical storm, approached the Leeward Islands.

Net Manager Jerry Herman, N3BDW, said although Debby was just a tropical storm, it was forecast to become a hurricane, and he wanted the Net to get a leg up in gathering information from participating stations.

As it turned out, Debby did gain Category 1 hurricane status the following day, with winds topping out at around 70 MPH with higher gusts. The storm's pace attracted the attention of Southern Florida amateurs, who began gearing up for possible disaster duty. Southern Florida SM Phyllisan West, KA4FZI, said Hams there were in a "wait-and-see attitude", although Debby had been downgraded to a tropical storm by then with only a slight chance of regaining hurricane status. West said county emergency coordinators were working closely with local emergency operations centers to monitor preparations and be available as needed.

Debby was downgraded to a tropical storm as it cleared the northern coast of Hispaniola. Reports received from the islands that the storm has passed indicate little or no damage from the storm.

"Our sincere thanks to all of our dedicated W4EHW Operators, some who took time off work to keep W4EHW on the air," Assistant Amateur Radio Coordinator Julio Ripoll, WD4JR, said. "Your time and dedication to public service and humanitarian ideals is what makes Amateur Radio much more than just a hobby. Without you, W4EHW would just be a bunch of wires, boxes with lights and a lot of silence." — *ARRL Letter*

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What is Amateur Radio?

Ric Shanahan, N1YLE

Well, it can be many things. To some, it's a way to contact others of like mind and interests from all over the world. To some, it's a social hobby where friends can talk on the air and occasionally gather as a group for a meal, party or celebration. To some, it's a hobby full of different facets, like a crystal, each of which can be studied, learned, and understood. To some, it's an opportunity to teach others what they themselves have already mastered. To some, it's a chance to obtain the most sophisticated toys in the world and interconnect them like an intricate and unique electronic erector set. To some, it's the pleasure of conquering a challenge, whether it be the next exam or that complex piece of equipment. To some it's the mystery of how things work, and the feeling of joy that comes with understanding. To some it's a tool to help their community and provide a service to others. And to some, it is all of the above.

But mostly, Amateur Radio is people.

One example of the way Amateur Radio can bring people together occurred during the last few weeks of the Mir Space Station manned flight. A friend and fellow Ham came to my home early one Saturday morning with a young man visiting from Moscow. This enthusiastic 14-year-old was extremely interested in the Mir and wanted to learn how Amateur Radio worked. I intended to show him how packet could be used to leave a message for the crew. After explaining about satellite tracking software and showing him how the radio, TNC, and computer worked together, we waited for the Mir to pass within range. The first pass did not have any Amateur Radio activity but he remained very interested. I showed him my HF station and how CW was sent with paddles while we waited for the next pass. As the Mir approached he became quite excited. The ship was sending SSTV images — pictures from space! I explained briefly how the images were sent and set the rig up for a brief voice transmission attempt. Handling him the microphone I suggested that he try to contact the crew in Russian. Although the crew was not able to respond, he was thrilled at the attempt. We left the shack for a while and watched some scenes from "Armageddon" on a newly acquired DVD player. He got a big laugh from the scene where the American ships docked with Mir and encountered the crazy Russian! Mir's next pass was silent, so my new friend didn't get a QSO, but he was hooked just the same. I copied some images from Mir's SSTV to a diskette and wished him well.

After he returned to Moscow and started school, he described his many adventures in America including his taste of Ham radio. After describing how some guy with a couple of old computers and an even older radio in his basement had sent and received signals from Mir he was challenged by his classmates, who accused him of exaggerating, or worse, about Mir. Surely it would require very expensive and elaborate equipment to accomplish such a feat!

Rummaging though his school bag, he presented his classmates with the disk containing the SSTV images of Earth, Soyuz, and two members of the crew. They were able to view the images on the school's computer and he was not only exonerated, but has become very popular with the other young techies. There is no doubt in my mind that he will pursue his technical interests and I would be delighted (but not surprised) to hear him on the air someday!

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