Wireless Association of South Hills

FCC Proposes 3.5 GHz Citzens Broadband Service

Just before years end on Wednesday December 26th the FCC announced a proposal to make available 100 MHz of shared spectrum in the 3.5 GHz band using small cell and database technologies. The FCC calls the new service in the 3550 to 3650 MHz band the "Citizens Broadband Service" or C-B-S and proposes three tiers of service. These will be known as Incumbent Access; Priority Access and General Authorized Access.

Incumbent Access would consist solely of authorized federal and grandfathered licensed Fixed Satellite Service 3.5 GHz band users. They would be protected from the other tiers by regulation and technical means. This would include the use of exclusion zones where other C-B-S uses would not be permitted.

Priority Access level would be given to small cell use by certain critical quality-of-service dependent users at specific target locations. This might include hospitals, utilities, state and local governments. It might also include users with a distinct need for reliable, prioritized access to broadband spectrum at specific, localized facilities.

Lastly, the General Authorized Access or G-A-A level would allow opportunistic use of the spectrum for a variety of residential, business and enterprise purposes. These users would have to protect Level 1 Incumbent Access and Level 2 Priority Access users through technologies including geolocation. Also as the lowest level users they would not have any expectation of protection from harmful interference to this user base.

The Notice of Proposed Rulemaking is known as FCC 12-148. It also seeks comment on including spectrum at 3650 to 3700 MHz, immediately adjacent to C-band downlink spectrum. If the FCC does include the 3650 to 3700 MHz band in the proposed new service, wireless Internet service providers using this band for links would have to be licensed under the tier 3 General

Carol's Comments

Now that the holidays are over and 2012 is behind us we can look forward to the new year 2013. Starting with the *WASHfest* on February24th 2013 is well on its way.

The prizes are complete, door prizes are done as well as the black box. There are a few minor things to be done but everything will fall into place.

Our Holiday Party is this Friday January 11th starting at 6:30 PM, a very short meeting with dinner to follow at 7 PM. Looking forward to seeing all those who will attend. As always a meal with friends proves to be a good time.

The 2 meter contest is this Saturday January 12th from 7 to 11 PM. I will be looking forward to making contacts with all. It is a lot of fun so join in! All the info is on the web site & in this newsletter.

Before you know it we will be making plans for N3SH Field Day 2013. It really isn't to early to start thinking about a place to have it.

I am also sure with Rick KB3IAC as our Activities Planner for our new year will be filled with a lot of fun.

See you at the party!

— 73. Carol Danko KB3GMN
President, Wireless Association of South Hills
N3SH / WA3SH / NP2SH

Next Monthly Meeting: January 11th, 2013

The next meeting of the WIRELESS ASSOCIATION OF SOUTH HILLS, INC. will be our annual Holiday Party on **Friday**, January 11th, 2013, at the Tambellini's, 413 Railroad Street, Bridgeville PA, starting at 6:30 PM. Dinner will be served starting at 7:00 PM   Talk-in on the 146.955(-) N3SH/R and 443.650(+) N3FB/R Repeaters (131.8 PL). Cost is $20 per adult. All members, guests and interested parties invited, but you must let KB3IAC or KB3IVX know how many are coming!

"Seen" at the WASH December Meeting

Photos courtesy of and ©Copyright 2012, 2013 Ron Notarius W3WN

WASH 2013 OFFICERS

THE LEGAL STUFF

WASH Amateur Radio Club News Briefs

Next WASH VE Test November 4th

The Next WASH VE exam November 4th, 2012, 2012 WACOM Street, the 146.79 All

Team

Please bring

2013 VE Team Schedule To Be Determined

sessions will be Sunday, 10:00 AM & Noon, at the Hamfest, 2141 North Main Washington, PA. Talk-in on MHz repeater.

examiners are ARRL VEC affiliated.

Walk-ins are always welcome, but if you plan on attending the test session, please contact VE Liason Bud Plants N3TIR:

Telephone (724) 350-6745 or E-Mail: bud@n3tir.com

the following to your test session:

FCC NPRM continued from Page 1

Authorized Access rules.

The NPRM proposes a "Spectrum Access System" which would govern interactions between all devices in the 3.5 GHz band. It would be modeled after the TV White Space database concept and all devices would be limited to 1 watt Effective Radiated Power as compared to an Isotropic radiator.

— *Norm Seeley KI7UP*
courtesy of *Amateur Radio Newsline*

Got Propagation?
Solar Flare photo courtesy of NASA

Comments on FCC ET Docket 12-338, the NPRM to implement allocation decisions from the WRC-2007, are due on February 25th, with reply comments due March 27th.

Amongst the many items proposed was to formally reallocate the Amateur Service allocation in 1900—2000 kHz to Primary status.

WASHNet 2013 NCS Schedule

Date	NCS	Date	NCS
01/01/2013	Glen KE7FD	02/03/2013	Sean N3NWR
01/06/2013	Kevin N3HKQ	02/10/2013	Dave N3IDH
01/13/2013	Harold K3HCR	02/17/2013	Dave N3DFK
01/20/2013	Carol KB3GMN	02/24/2013	Kevin N3HKQ
01/27/2013	Bob AB3ED	03/03/2013	Harold K3HCR

Saturday, December 29th was planned to be the last meeting of **the WASH Breakfast Gang** for it's monthly pause at *The Beach House* in Finleyville for 2012. Unfortunately, a snow storm that dumped a couple of inches of white stuff on the ground started the evening before, and was ongoing for most of the morning. Only K3VX was willing & able to brave the roads and represent the gang this month.

It's unfortunate, but we've been very lucky most winter breakfast mornings; inevitability caught up to us, and frankly, it's not worth the risk of an accident. We'll be back in January, weather permitting of course.

So, we hope you'll join us for the next gathering at *The Beach House*, Library Road, Finleyville, just south of Trax Farm, on January 27th.

See you there!

So, what do you think of the new masthead for the newsletter? This is the first of several changes & updates that are going to be phased in over the next year. It's been a long time since the *WASH*Rag has undergone even a small overhaul, and it was overdue.

On that note, we want to express **special thanks and appreciation** to Jeff Murray K1NSS, of **Dashtoons** fame for the artwork. We've featured some of Jeff's work in past newsletters, and a conversation on a web forum led to what you're seeing now on Page 1. We're hoping to convince Jeff to make the trek westward for an upcoming club event to thank him formally & properly for his donation. In the meantime, you can find more of his work at http://www.dashtoons.com/ and http://www.lulu.com/spotlight/6sj7comics

The annual **WASH 2 Meter Simplex Contest** is just a few weeks away. We've published the 2013 Rules in this month's newsletter — please review, as there are quite a few changes. These include digital modes, AM for those who dare, a revised scoring system, and more.

When you mention the contest, please don't forget to emphasize that **entrants will be required to use ONLY the 2013 forms!** Not just because of scoring changes… but because Ed N3ZNI has moved out west for good. Any entries sent to him, between forwarding delays and such, may not make it back in time for the deadline! Going forward, all contest entries need to go only to Ron W3WN.

On-Air Code Practice, for those who built the kits last month and others who want to join in, is tentatively scheduled to start January 15th. (The original start date of January 8th was moved, as several people are still looking for keys or looking to complete their kits). More information will be forthcoming from Rick KB3IAC; keep an eye on the N3SH club e-mail reflector.

If you're interested, but wasn't in on the kit construction, don't let that stop you! Drop Rick a note today and let him know you'd like "in" on the activity, and join the fun!

2013 Club Dues are, ah, due. Don't forget that Mark N3RDV has requested that ALL new & renewal memberships include a membership app this year, so that he can keep the club records up to date.

By the same token, **if you change your email address**, please make sure you let Mark and Ron W3WN know. Ron maintains the club e-mail reflector and newsletter distribution lists, so he has to know to put your new addresses on the lists. Neither list is published or publicly distributed… the N3SH list is for club members only; the WA3SH newsletter list is only used to send this newsletter, you do not have to be a club member to be placed on it, so tell your friends (but they do have to ask… we won't add an email without a request)

Can you believe that we're only a few short weeks away from the **WASHFest 2013** . Seems like we just had the last one yesterday… where does the time go? Don't forget that hamfest table deposits are due by February 1st, or with your reservation after that date.

More importantly, the time is coming for club members who are volunteering to help at the hamfest to start thinking about what you'd like to do… just drop Carol a note and let her know!

Join WASH or Renew your Membership for 2013 Today ! Membership Application on Page 13!

Minutes, December 13ᵗʰ Meeting

Ben Williams KB3ERQ, VP/Secretary, **WASH**

Carol KB3GMN called the meeting to order at 19:03 hours. There were 17 members and guests in attendance.

The Pledge of Allegiance was recited by all, followed by introductions.

A moment of silence was observed for recent silent keys and other deserving persons.

A motion was made by Ron W3WN to waive reading of the October minutes as published in the newsletter. Seconded by Larry K3VX and carried unanimously.

Committee reports:

Treasurer (N3RDV): A balance on the bank account was read & accepted.

Secretary (KE7FD): No report.

VE Team (KI4DHB): No report.

Repeaters (N3FB): Repeater committee reports situation is still in progress, no recommendations or resolutions yet.

N3IDH reports that 146.79 Washington is back up in a new location, with EchoLink. 147.27 will be coming back up, at Scenery Hill.

Net Report (N3HKQ/KE7FD): Glen KE7FD is assuming Net Manager duties from Kevin as of January 1. Carol is not happy with net response, is open to suggestions for another night if Sunday is not working out.

Contests (K3VX): Upcoming events include Stew Perry, CQ 160, ARRL DX in the next few months. Our annual 2 Meter contest rules stand as stated in the newsletter. Contest date is January 12ᵗʰ, 2013, 7—11 PM EST.

*WASH*Fest 2013 (KB3GMN): Hamfest prep is going well. Stu (ITEC) Webb has taken ill, does not appear that he will be able to attend. He is donating his table deposits to the club in case he can't make it. Please bring donations for the club table to the February club meeting.

Public Service (N3IDH): No report

Ways and Means: 50/50 tonight.

Newsletter (W3WN): Published. Changes are planned starting in January.

President's Report (KB3GMN): President's comments covered earlier during other committee reports.

Old Business: Mike N3BSQ reported on status of NP2SH/B beacon transmitter rebuild (again). Still a work in progress, a lot of damage when the Radio Shack power supply blew out.

New Business: Reminder that the end-of-season Holiday Party will be Friday, January 11ᵗʰ at Tambellin's in Bridgeville. Short meeting at 6:30, dinner and festivities start at 7:00 PM. Checks made out to Jan KB3IVX.

Good of the order:

- Jan KB3IVX suggested we start a fund early for next year's Christmas party,
- Carol KB3GMN mentioned we will have a Chinese auction at the party.
- Rich N3SBF announced that there will be a CW class starting March 7th at Steel City. Also a reminder of the upcoming Breezeshooter's Groundwave contests.
- Carol KB3GMN expressed thanks to Patty KC4WTT & Jan KB3IVX for taking on this year's Christmas/Holiday party planning

Motion to Adjourn by Bill W3WH, second by Harold K3HCR and carried.

Meeting adjourned at 19:37 hours.

WASH Spotlight: The Streak

The streak is broken! For the first time in recorded history, Bill W3WH won a 50/50 raffle at a club meeting!

Photo courtesy of and ©Copyright 2012, 2013 Ron Notarius W3WN

Every month we're going to feature a *WASH* club member, something about them, something they're involved in or a club-related activity that we're involved in, in the *WASH Spotlight*. Submissions for the Spotlight should be sent to Ron W3WN at **newsletter at n3sh dot org**

Monthly WASH Breakfast

Please join us for the next *WASH* Breakfast! We usually get together on the LAST Saturday of every month for a chance to informally sit down, shoot the breeze, compare notes, drink lots of coffee, and just have a good time!

Join us this month at **The Beach House**, on Route 88 in Fiinleyville, just south of Trax Farms and adjacent to Mineral Beach.Start time is about 8 AM until ???? Monitor 146.955 & 443.650 for talk-in or any last minute changes.

All are welcome, *WASH* members or not, amateurs or not!

Wireless Association of South Hills Membership

2013	K3SGT	N3RDV	*WASH* FL	WASH VI	*Silent Keys*
K3HCR	KØLIN	N3RHT	KA3UPY/M	NP2JF	
K3GW	KB3DCO	N3TIR	W4ZE		K3EED
K3VX	KB3ERQ	N3UE	*WASH* GA		K3LIE
K3WJL	KB3GMU	N3YJJ	K3OL		KA3NMG
KA3TWI	KB3IAC	N3ZK	KB3IJX		KB3ENX
KB3GMN	KB3IVX	N3ZNI	*WASH* NE		KB3FNM
KB3GMP	KB3MHM	W3LE	NØPEU		KB3FQT
KB3TOA	KB3SPD	W3VFA	*WASH* OH		N3FZ
N2QIV	KB3SPE	W3WH	N8DPW		N3KEH
N3BPB	KB3SRC	W3WN	*WASH* SC		N3OBD
N3IDH	KB3WRO	WA4ONC	N3RNX		N3SKR
N3NWR	KB3YCX	WB4GCS	*WASH* TN		N3SRC
N3SBF	KC4WTT	WO3Z	KE3XB		N3ZEL
W3RWS	KE7FD		N3YPB		N3XFE
WA3BOJ	KJ3D		*WASH* TX		W3ZLK
Darry	N3AWF		K3LGM		WA3JPP
Sleeman	N3CZZ		Jane Wagner		
2012	N3DFK				
AB3ED	N3FB				
AB3EN	N3FPF				
AB3KA	N3HKQ				
AC4KU	N3KFD				
AE3DL	N3OVO				

Through January 6ᵀᴴ, 2013
List complied by
Mark Stabryla N3RDV, Vice President/ Treasurer

2013 WASH Upcoming Events Calendar

Meeting Topics & Other Significant Club Events — Subject to Change

Date	Event	Location/Link
January 11th	*WASH* Christmas/Holiday Party	Tambellini's Restaurant, Bridgeville
January 12th	*WASH* 2 M Simplex Contest	http://www.n3sh.org
January 19th	Breezeshooter's Groundwave PSK	http://www.breezeshooters.net/html/
January 19th — 21st	ARRL January VHF Contest	http://www.arrl.org
January 25th — 27th	CQ 160 Contest CW	http://www.cq160.com
February 14th	*WASH* Meeting	@ Crossroad Ministries Church
February 16th	Breezeshooter's Groundwave CW	http://www.breezeshooters.net/html/
February 16th — 17th	ARRL DX Contest CW	http://www.arrl.org
February 22nd — 24th	CQ 160 Contest SSB	http://www.cq160.com
February 24th	*WASH*Fest 2012	http://www.n3sh.org
March 2nd & 3rd	ARRL DX Contest SSB	http://www.arrl.org
March 14th	*WASH* Meeting	@ Crossroad Ministries Church
March 16th	Breezeshooter's Groundwave SSB	http://www.breezeshooters.net/html/
March 30th & 31st	CQ WPX Contest SSB	http://www.cqwpx.com
April 11th	*WASH* Meeting	@ Crossroad Ministries Church
April 28th	2 Rivers ARC Hamfest	http://www.trarc.net/trarc-hamfest
May 9th	*WASH* Meeting	@ Crossroad Ministries Church
May 17th — 19th	Dayton Hamvention	http://www.hamvention.org/
May 25th & 26th	CQ WPX Contest CW	http://www.cqwpx.com
June 2nd	Breezeshooter's Hamfest	http://www.breezeshooters.org/
June 8th — 9th	ARRL June VHF Contest	http://www.arrl.org
June 13th	*WASH* Meeting	@ Crossroad Ministries Church
June 22nd & 23rd	ARRL Field Day	http://www.arrl.org
July 11th	*WASH* Meeting	@ Crossroad Ministries Church
July 13th & 14th	IARU World Championship	http://www.iaru.org

Remoting My IC-706   James A. Sanford WB4GCS

Background

I have been slowly building a station which I hope to ultimately provide serious capability on all bands,2m through 10 GHz, with a little HF capability in order to remain in contact with friends. To that end,

the tower is located at the highest practical point on my property, which puts it about 350 feet from the shack. Clearly the UHF and above equipment will have to be at the tower – how to control it? (I had originally intended to put the microwave equipment at the antenna, but Paul Wade convinced me to do otherwise – preamp at the antenna, and transmitter on the ground, with the largest feed line possible going to up the tower. It is much easier to generate significant amounts of microwave power on the ground than in the air, and certainly easier to troubleshoot and repair.)

I have quite a bit of 50 pair telephone cable, so I had originally intended to run that out to the tower, and reach back into my broadcast days to send audio to and from the tower on shielded twisted pairs. For HF, I would bury a single 7/8" hardline, which I have.

This project has gone very slowly, because I am determined to "do it right" and not rush. This has served well, in that as time has gone on, new advances and opportunities have led to better capability at less expense.

I read about one of those opportunities several years ago in QST. It contained an article about something called **RemoteRig**, and included a photo of the author in a hotel room in Italy, operating his rig in the US over the internet. This was a fantastic opportunity, I explored it, and am now using it.

RemoteRig

This device, actually a pair, contains hardware that will digitize audio and turn digital audio back into analog (using a device called a codec, for Coder/Decoder), packetize the data and transmit it to its twin over Ethernet. I say "Ethernet", because that is the interface, the devices do not care about the hardware layer in between – wired network, wireless network, world wide internet, or satellite internet. It also packs up signals like Push-to-talk (PTT), CW key or paddle position, and one or two serial ports.

More information on RemoteRig is available at, http://www.remoterig.com/wp/?page_id=1051. The generic site for the people who develop this is http://www.remoterig.com.

Basically, RemoteRig will let any computer-controllable radio be remotely controlled, within the limits of that radio's remote capability. So, a rig which can be commanded in frequency, band and mode, can be operated remotely with a suitable computer program. Functions which require manipulation of front panel knobs are not available remotely.

Serendipitously, radios like the IC-706 MK IIG, have detachable front panels, which communicate to the radio over few wires, carrying audio and serial data. Long story short, for the 706 and some ICOMS, no computer is needed, the RemoteRig pair transparently sits between the control head and the radio.

Perusal of the RemoteRig site reveals that through cooperation with the manufacturers, there is now similar capability for Elekraft K3 and certain Yaesu radios. RemoteRig can be set up over a USB cable and, once configured to your network, over either USB or the Ethernet connection. Software is remotely upgradeable and revisions are released frequently. The units support DHCP or can be set with fixed IP addresses. They also support various RemoteDNS schemes which allow you to access your home device even if your internet server provider has given you a dynamic (not constant) IP address. It is accessed by any web browser.

WebSwitch

So, now that I can control the radio, how do I control ancillaries, like antenna selection, rotor control, and main power supply? Enter another device from the same people, the WebSwitch. This device, also configurable over USB or Ethernet, Detailed information is here, http://www.remoterig.com/wp/?page_id=166.

The WebSwitch allows control of five 230-volt 16-amp relay contacts, It can also be configured to do more sophisticated things like adjust antenna arrays with a single command, again on a web page, using any web browser, or turn on a fan or heater based on measured temperature. In addition, it has two Dallas Semiconductor 1-wire ports. 1-wire is a scheme where multiple devices, addressed with a unique digital address, can exist on a single serial communication bus. Either of the ports can be configured for many temperature sensors.

RotorControl

OK, so now that I can turn the power on and off, and measure temperatures of the equipment, how do I

move the antennas? Enter the rotor control board. http://www.remoterig.com/wp/?page_id=840.

This board connects to the WebSwitch via one of the 1-Wire ports. It provides detection of rotor position, based on the analog voltage in the rotor controller, and relay closures to control left, right, and a brake. You are warned that most brakes are directly on the 120- or 240-volt line, which the relay contacts will handle, but require care in installation and testing.

My Setup

So, now with the background in hand, my setup is as follows. The RemoteRig sits electrically between my IC-706 and the front panel. The radio and support components sit in a weatherproof box which will go out to the base of the tower when I complete testing. The control head, one RemoteRig unit and a speaker sit on a wooden base I built, see below.

I built it this way to create a single unit which could be moved as a unit, and not a bunch of pieces, should I ever take this somewhere else. It is actually a fairly small arrangement, see Figure 1.

Figure 1: ICOM control in the shack

Remoting My IC-706

Here is the rest of the shack equipment on its shelf (Figure 2):

Figure 2: ICOM control & RemoteRig Shelf

Not shown on the photo is a label with the IP address – I configured both units for static IP addresses to not take any chances in a router change or failure. The Icom front panel receives power from the RemoteRig unit, which is powered by an external 12 Volt supply. You can see evidence of a ferrite choke on the power lead to the RemoteRig; I used these things liberally to avoid EMI problems, and so far, have seen none.

The radio itself is in a large weatherproof cabinet that will eventually be at the base of the tower (and ultimately replaced by a small building). It has lots of extra space for future additions, like the master LO for the microwave gear and the various transverters (see Figure 3)

Top to bottom:
- A DIN rail containing an industrial Ethernet switch, WebSwitch, rotor control board, fuses, and an industrial power supply
- The shelf for the IC-706 and it's RemoteRig unit
- A shelf for power supplies
- A power control unit

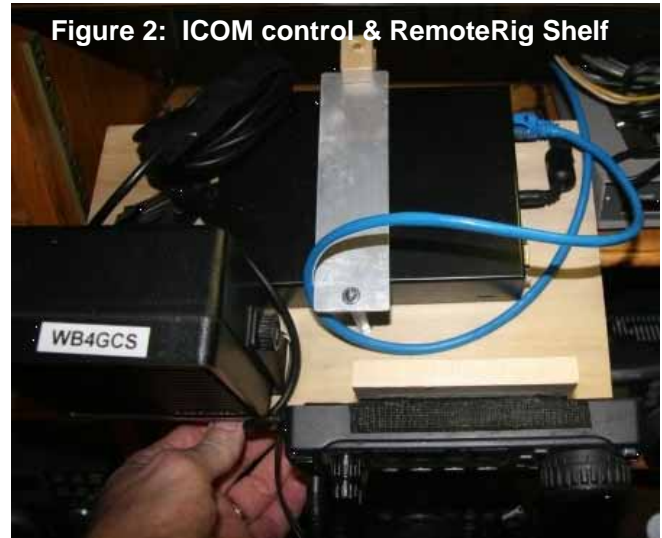Each will be explained in detail. The DIN rail is shown below in Figure 4 in more detail:

Figure 3: Remote Equipment Rack

Figure 4: The DIN Rail & Network/Power components

At the very left, barely in the picture, is an industrial (as used in distributed plant control systems) Ethernet switch. I consciously decided to use a switch and not a bunch of discrete CAT-5 or -6 cables to the equipment to allow some flexibility and redundancy. The network connections are barely visible, but the top goes to the home network router, one goes to the WebSwitch and one to the RemoteRig unit in the cabinet, allowing a spare – for the laptop, if I wish to troubleshoot the network. Or, for the IC-706 front panel, if I want to bring it out to the outdoor location for troubleshooting. This switch internally auctioneers between either of two power supplies, which feature is exploited as discussed later.

Next on the right, is the WebSwitch, with the large "microbit" logo. Like the Ethernet switch, it receives power from two sources, with the auctioneering diodes on the terminal strip above it. The red LED which is illuminated on the bottom indicates that one of the relays is closed. At the moment, I only use one, it commands the power control unit. Eventually I will use two of them to select between vertical antennas for HF. Also on the bottom of the WebSwitch are the ethernet port, and the two 1- Wire ports. I use port A for temperature measurement, and port B for the rotor control unit.

To the right of the WebSwitch is the rotor control unit. On the top are the 1-wire connection to the WebSwitch and a SINGLE power supply connection. The connections for brake, left, right, and azimuth analog input are on the bottom and not yet connected. (I will have to pull the rotor off the tower for testing and configuration.)

Next on the right are two fuse panels – one for fuses to selected components from a battery, and one for fuses from the industrial power supply. To the right of the fuse panels is a terminal strip arrangement which allows connection of power to another DIN rail of components, should they ever be added. To the right of that is the industrial power supply, which is adjusted for 13.8-volts output.

A note about power. First, I used the industrial components since they will accommodate a wide range of input voltages, 8 – 30 volts in some cases. This was motivated by my desire to take all AC power out of the cabinet (almost) and still turn it back on remotely. This leads to a deep-cycle gel cell battery, which feeds the battery "bus" or fuse panel. Since I only need to be able to monitor temperature and command the power control unit, at the moment, only the industrial switch and WebSwitch receive battery power. I once ran them on battery for an extended time, it was about a week before battery voltage got so low that they shut down.

Another note is that I have chosen configuration and wiring techniques more suitable to industrial control systems (about which I have been learning a lot in the last four years) than ham techniques. This is because I want the system to be robust and I want it to be reconfigurable. This will be a work in progress for the rest of my life.

After a large open space for future expansion, the next shelf is the IC-706 itself and ancillaries. (Figure 5, next page)

Remoting My IC-706

Obviously on the right is the radio itself. To its left is the RemoteRig unit, with a label showing its IP address. Behind the RemoteRig is a diplexer to segregate HF and 6-meters from the ICOM single output. Barely visible behind the Icom are the diplexer connections which segregate 2 m and 70 cm from the single output. EMI chokes are apparent.

Figure 5: The ICOM IC-706 Shelf

The small board to the left of the ICOM with a green LED on it is an interface between the ICOM and an SGC-231 SmartTuner (at the antenna) which lets the front panel Tune button on the ICOM initiate an auto-tune cycle. The terminal strip in the center goes to the SmartTuner, the one to its right is connections for the 1-Wire bus; I have a temperature sensor clipped to the heatsink of the ICOM for remote monitoring of temperature. To its right is the power connection. I decided to use a single feed so that this shelf could be easily removed for troubleshooting and modification. The RemoteRig and Icom have separate fuses of appropriate value.

Next, in Figure 6, we see the power supply shelf, which is pretty straight forward.

This is a closeup of the right half of the shelf. To the left is the "standard" 1-Wire terminal strip, I have a temperature sensor on the heatsink of the power switching transistors. (This is a switch-mode power supply). The terminal strip on the right establishes a bus of positive and negative connections, to allow other shelves to be connected later.

Figure 6: Power Supply Shelf

Although the power supply is current limited, it is my intent that any additional equipment on additional shelves will be individually fused on that shelf at the appropriate value. On this shelf it is apparent that provision has been made for a Plexiglass cover to be eventually installed, reducing opportunities for inadvertent contact, which will be a standard on all shelves. The grey cord in the middle is the AC power for the supply, I have not yet settled on a routing configuration.

Figure 7: Power Control Unit
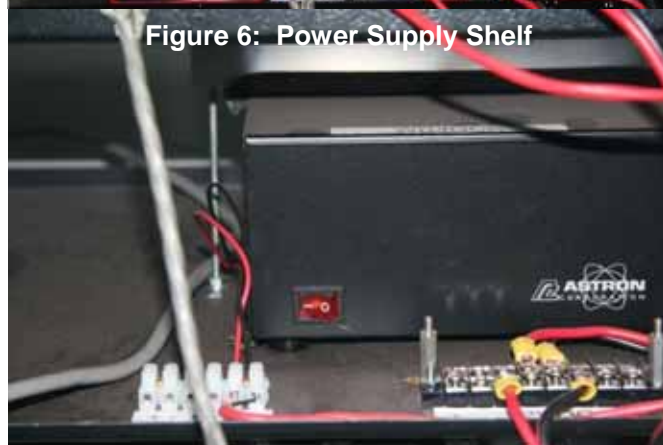
Figure 7, left, is the power control unit:

On the left are switched outlets; this unit is capable of controlling a 120-0-120 system, so loads can be plugged into either 120-volt circuit. At the moment, it is configured for a single 120-volt circuit, and plugs into an outlet in the weatherproof cabinet, which brings in external power. This unit is controlled by the WebSwitch; connections from it go to the Molex connector near the center. All that is required to turn this on is a contact closure, it has an internal power supply for control power. The device with the green label plugged in on the right is the smart charger for the battery. Obviously, this shelf is farthest from final configuration of wiring – I am still experimenting with different options.

In the OFF state, the network switch and WebSwitch are powered by the battery. When commanded on via the WebSwitch web page, this unit is turned on, the industrial power supply takes over powering the switch and WebSwitch, the rotor board receives power, and the power supply shelf receives power.

The small battery charger recharges the battery whenever the cabinet is on. I have been able to leave power off for several days and still be able to command the cabinet on. The eventual installation at the tower will back up the battery charger with a pair of 48-watt solar panels and battery charge regulators.

Operational Update

To test this setup and get some run time prior to locating it 350 feet away from the house, I connected it to an antenna just outside the garage and have just operated for a couple of months. I have worked across the country on various bands, and had several QSOs with friends on the east coast. I have even worked a little DX on 17 and 20 meters.

One anticipated concern was loading on my network. Although the RemoteRig equipment only needs a 10MB link and my network is 100 MB, this setup shares the same router as the rest of the house, which includes a desktop, two laptops, and occasionally another desktop which will operate the eventual SDR equipment. In a recent extended QSO, I was also doing some internet shopping at the same time, which included searching and downloading many graphics-intensive pages. After it was all over, I realized that there was no impact or interference between the two simultaneous uses.

This is very encouraging, but I will need to try and use the radio under a period of intense internet activity to make sure. I do have a "managed" switch that I can use to run the network, and may try to create a dedicated VLAN for the IC-706, but at the moment, that will have to be categorized as an "improvement", and not essential.

Antenna Addendum

Many years ago at the Hampton, VA QTH, I often tried to have QSOs with a friend mobile in Northern VA. I tried loops, G5RV, Inverted-L's, you name it. I had stayed away from vertical antennas because of the need for support, and the pain of installing radials. Then I ran across *The Amateur Radio Vertical Antenna Handbook*, by Captain Paul H. Lee, USNR, K6TS. This was one of the CQ technical series from the mid-seventies.   Calling upon his military and commercial (broadcast) antenna experience, he made several interesting points:

1. A short vertical may perform better than a full-length half-wave dipole at the same (too low) height, especially for DX, where low angle of radiation is required.
2. Ground radials are important, but like most things, a point reached where the value-added by more radials starts to "flatline" (I concluded that 12 is a good minimum)
3. Shunt feeding allows the whole thing to be grounded, electrically longer, and enables some interesting impedance-matching techniques.

Remoting My IC-706

At about the same time, a member of the local ham club did a presentation on a "stealth" 4-conductor cage vertical that he had built, using a copper commode-float ball as static dissipator at the top, and junked car radio antennas as spreaders. He was very satisfied with performance. Just as in the old sea-going antennas of the early twentieth century, the multiple conductors improve efficiency by a small amount, and make the antenna effectively larger in diameter, improving bandwidth.

I decided to give it a try, since I had several tall pine trees in the yard and a set of tree-climbing spikes. I put together a six-conductor cage vertical, using the commode-float ball, and copper pipe bent into a circle with about a 14" diameter as spreaders. I installed 12 radials, each as long as could be run from the antenna (at the back of the yard) to the house or property line – definitely random in length. A Heathkit KW auto-tuner was in a weatherproof box at the feedpoint of the antenna. Later, I added a single top conductor running toward the tower at the house to make this thing load on the 3.3 MHz Navy-MARS frequency. When I first called my friend, he said I had the loudest signal on the band, and I heard his mobile better than I ever had before.

I knew, EZNEC confirmed, and operating experience proved that this antenna was too long for 30 meters and higher frequencies. At that time, Communications Quarterly was publishing many antenna articles. Several theoreticians and practical designers had analyzed elevated radials, and short radials – the latter as a way of making the radiation pattern less susceptible from influence by nearby metallic objects.

The elevated vs. in-ground debate continues, and I don't have an opinion on which is better. I decided to try both, and built the vertical shown below. The radiator is 18 feet of 1" aluminum, the radials are 6 feet long. In the initial installation, the base of the antenna was 15 feet in the air. I chose 18 feet for length as the geometric mean of resonant lengths at 10 MHz and 30 MHz, and it is an even multiple of 6 feet, which was convenient for shipping from my aluminum supplier (alas, now out of business). It worked, and worked better than the long vertical on the higher bands.

Both antennas made the move with me to Pennsylvania.

When I needed to put something up close to the house for testing of the remoted ICOM this was the easiest and fastest to put up. The current installation has an SGC-231 SmartTuner in a weatherproof box at the feed point. This tuner was a limited run for the military (I suspect) and has more tuning elements, increasing the number of combinations significantly. (I got it in an estate sale.) It will tune about anything, and once tuned, remembers, for very quick retuning on the same frequency.

Figure 8: The 18 Ft. Vertical

Results

I have been pleased with the results. As mentioned above, I have worked a little DX and had QSOs across the country. The best part is, that I have been able to routinely communicate with friends on the east coast, and they hear me better than ever before – on 75 meters! I'm not at all surprised that the SmartTuner will match this antenna on 75m, I am surprised that I can be heard!

Future Plans

This was a test setup to get some run-time on the remote control ICOM before moving it out to the tower, seen in the background of Illustration 9. I have recently been given a 30-foot top-loaded vertical. If weekend weather stays mild enough, I plan to splice it back together, truss it to make it more rigid, and then put it up, probably in a grounded-base, shunt-fed configuration – I like the whole antenna being at DC ground. At the same time, I will relocate the antenna shown above, and have another weatherproof box which will ground both antennas and the SmartTuner when no power is applied, and then allow remote switching (using the WebSwitch described above) between the two antennas. Getting it away from the house allows for radials under the 30-foot antenna and removes it from computer noise generated by the wife's computer, which is currently very close to the antenna.

Once the antenna is relocated, I have two 48-watt solar panels, maximum-power-point battery charger and battery monitors, which will go in a separate weatherproof box to provide the standby power for the Ethernet switch and WebSwitch. This way, unless I'm actually using the station, power is disconnected, and the only solid conductor (other than ground) between the station/antennas and the house is the network cable, or perhaps eventually, fiber.

In the very long term, after all the UHF and Microwave antennas are on the tower, I plan to shunt-feed the tower at the top for 160 meters, and about a quarter-wavelength up on 75. The shunt-feed allows for several things:

♦   everything is at DC ground

♦   moving the tap up and down the tower can be used to tune out reactance at the center of the band of interesting

♦   adjusting wire size of the shunt feed and spacing thereof can be used to transform the impedance

It is at least theoretically possible to use these degrees of freedom to achieve nearly 50 ohms resistive at the feed point, allowing tuning over the band of interest with a single capacitor or inductor. My broadcast engineer friend tells me that series inductors are more lossy than capacitors (not what I'd have thought) and recommends setting for slightly inductive feed impedance. He also tells me that the tower is too tall for 40 meters.

Figure 9: Vertical Feed Point

In this ultimate configuration, 18-foot vertical will be mounted 50 feet or so away from the tower for use on the higher bands. Although I have a nice tri-band beam, I don't currently plan to put it on the tower – unless and until I have someone that I'd like to routinely work at a distance requiring gain on the higher bands.

WSJT-X & JT 9

WSJT facilitates basic digital communication using protocols explicitly optimized for a number of different propagation modes.   The latest release, WSJT 9.3, includes several relatively new modes not yet described in the User's Guide. JT65B2 and JT65C2 use the same tone spacing as JT65B and JT65C, respectively. They are keyed at twice the rate, and T/R sequences are 30 seconds rather than one minute. Sensitivity of the fast modes is 3 dB worse than the standard modes. The B2 and C2 modes allow EME contest QSOs to be made at twice the rate, up to about 20 QSOs per hour.

WSJT-X is an experimental release implementing JT9, a new mode designed especially for use on the MF and LF bands. Be sure to read its User's Guide before attempting to use the program!

User's Guides and software can be downloaded from http://physics.princeton.edu/pulsar/K1JT/wsjt.html   — Joe Taylor K1JT

Announcing the Thirteenth Annual WASH 2Meter Contest!

This January will mark the Thirteenth Annual *WASH* 2 Meter Contest. We've already had a lot of interest in it, and this year promises to be even more exciting!

Everyone who participated in it the last twelve years had a blast, and we hope to continue the tradition again this year!

Please review this year's rules carefully. After evaluating feedback from participants the last two years, we've made some changes and additions that we hope will really generate some interest! There may be some additional "tweaking" of the rules between now and January, so keep an eye on this column in the next few newsletters, and we'll look forward to seeing you on the 12th!

Date & Times: Saturday, January 12th, 2007 from 7 to 11 PM EST. (That's January 10th 0000-0400 UTC to the purists!)

Objectives:
- To make as many contacts as possible
- To have fun!

Band, Mode & Frequencies: The contest will take place solely on 2 meter band.

- **FM** : FM simplex only, no repeater contacts. The FM frequencies are all standard 2 Meter simplex frequencies, as per the ARRL 2 Meter Band Plan, every **15 kHz**, from **146.505 to 146.595 MHz** , and **147.450 to 147.580 MHz**. Use of simplex frequencies in the "FM Experimental Simplex" band of 145.510 to 145.670 are not recommended. See list of recommended simplex channels at the end of the rules.
- **CW**: 144.05 to 144.1 MHz Only. (See ARRL 2 Meter band plan)
- **SSB & AM**: 144.2 to 144.275 MHz Only. (See ARRL 2 Meter band plan).
- **Digital (including RTTY)**: 144.51 to 144.55 MHz. (See ARRL 2 Meter band plan) Multiple digital modes may be used, and participants are free to use any generally accepted Digital mode, but only ONE Digital QSO with a given station regardless of mode

→ *Note: Listen for CW QSO's around 144.1 MHZ 15 minutes after the hour*

→ *Listen for SSB & AM QSO's around 144.2 MHz 30 minutes after the hour*

→ *Listen for Digital QSO's around 144.51 MHZ 45 minutes after the hour*

In the event of accidental QRM with nets and non-contest QSO's in progress, please respect their right to the frequency and QSY.

Power Limit: Maximum 100 watts output.

Exchange : Callsign, contact number, ZIP Code.

For the purposes of the contest, the 5 Digit ZIP Code for your location is sufficient — do not use the "Zip +4" code. Mobiles and portables should use the ZIP code of their location as determined to the best of their ability. Canadian stations will use their 6 digit postal code

Example 1: "N3ZCG from W8XK, please copy Number 3, 15347."

Example 2: "K3VX from K3CM, please copy Number 21, 16801"

Example 3: "W3WH from W3OC, please copy Number 7, 15137"

Contacts : Work as many different calls and locations as possible, giving Exchange as noted above. Work each station **once** per mode, and **once** per ZIP Code — Mobiles can be reworked whenever they change locations. Remember hilltops work best!

Disqualification: Remember, this is a friendly "for fun" contest. Stations may be disqualified for infractions of the rules and for unacceptable operating practices. While not an inclusive list, stations may be disqualified for:

- FM signals transmitted on simplex channels below 146.505 MHz.
- Intentional interference to non-contesters, nets, & QSO's
- Intentional interference to other contest operators
- The committee reserves the right to verify QSO's. QSO's that can not be verified may be removed from the log without penalty.

Scoring: Each Contact:

Phone (FM, SSB, AM):	1 point	
CW:	2 points	
Digital (any mode):	2 points	

Multipliers: Locations (Number of different ZIP Codes)

Power: Stations running 10 watts output or less: 3

Stations running over 10 up to 30 watts output: 2

Stations running over 30 watts output: 1

Final Score: Total Points x Locations x Power

After the Contest: Fill out all the log information. In the upper left corner check whether "base" or "mobile." In the upper right corner be sure to enter your callsign and club affiliation (or "none" if not a member of any club). Please number all log sheets consecutively. Log sheets can be downloaded from the *WASH* web site, **www.n3sh.org**, no later than January 1st.

Submit Log Sheets:: Check your log sheets carefully for dupes. Verify that all information is entered.

Send the logs to: ** New Address for 2013 **
WASH 2 Meter Simplex Contest
c/o Ron Notarius W3WN
3395 Rosewood Drive
Castle Shannon, PA 15234-2546

Enclose a #10 SASE for return of results.
Entry Deadline: February 1st, 2013

Each log submitted on or before the deadline will receive one (1) main prize ticket to *WASH*Fest 2013 on February 24th

Logs submitted with an SASE will have their ticket mailed to them, otherwise, the tickets will be available at the **WASH** Club table

Recommended FM Simplex Frequencies:

After the first year of the contest, we found that the limited number of frequencies suggested in the rules were insufficient for the activity level. In subsequent years, we permitted use of any recognized simplex frequency, as per the ARRL recommended guidelines published in the annual ARRL Repeater Directory and other sources, above 146.520 MHz.

You will note that many of these frequencies are listed as potential dual use, with a "local option" for them to be used for repeater inputs and outputs.

After discussions with Frank Bobro N3FB, Repeater Coordinator for the Western Pennsylvania Repeater Council (WPRC), we have determined that the following simplex frequencies are recommended for use. Use of those that are "dual use" are not expected to cause issues for any known repeaters.

Remember that good amateur practice indicates that should a contest participant be notified that they are inadvertently causing interference to a coordinated repeater that is using a recognized simplex channel, they should immediately cease use of that frequency in favor of, and out of respect for, the existing repeater.

The following list of recommended frequencies are recognized as standard simplex channels and should not suffer from co-channel problems with any existing repeaters:

146.505 MHz	146.580 MHz	147.510 MHz
146.520 MHz (*)	147.450 MHz	147.525 MHz
146.535 MHz	147.465 MHz	147.540 MHz
146.550 MHz	147.480 MHz	147.555 MHz
146.565 MHz	147.495 MHz	147.570 MHz

Simplex channels below 146.505 MHz are not to be used, as many of these are in use in WPa as repeater input frequencies.

(*) The National Simplex Frequency, 146.520 MHz, may be used. However, many stations use 52 for casual conversation or as a calling frequency. If the frequency is in use or becomes used by non-participants, please permit them to use the frequency unimpeded.

To avoid interference to other contestants and other users of the bands, please do not operate on 5 or 10 kHz "offsets" from these recognized FM channels.

Bottom line: Enjoy the contest, but do so responsibly.

Wireless Association of South Hills
HOLIDAY PARTY

Friday - January 11th, 2013 6:30 PM to 9:00 PM

Tambellini Restaurant 413 Railroad Street Bridgeville, PA

Dinner Buffet

Salad
Chicken Marsala
Boston Scrod
Pasta
Meatballs
Vegetable
Rolls/Butter
Dessert

Club Member $20
Member Guest $20
(One guest per member permitted)
Children 12 and under $10
Nonmembers & additional guests $26 per person
Alcoholic Beverages Available for Purchase by Each Guest

R.S.V.P . by December 30th, 2012 to janbell@dbs2-llc.com   (724) 884-0394

OFCOM Thanks RSGB For Olympic Help

Dear Mr Beattie,

Now that the London 2012 Games have come to an end I wanted to express my warm thanks and appreciation for the contribution that you made to the outstanding success of wireless communications during the Games.

One of the critical challenges for Britain was to find enough enough people with the right skills in radio engineering and interference management to support the needs of the Games. Ofcom could not have found enough people from our own resources and we therefore sought help from you and other agencies to help us find expert staff.

The radio amateurs who helped us at the London Games were:

- **Roger Dixon**, Spectrum Engineer in the South River team
  Roger worked at Greenwich Park and The Royal Artillery Barracks

- **Dave Pick** and **Jon Lee**, Spectrum Engineers in the River Zone team
  Dave and John worked at the ExCel Centre and the North Greenwich Arena

- **John Pink**, Spectrum Engineer in the Testing and Tagging Team
  John worked in the Olympic Park

- **Darren Storer** and **Chris Morcom**, Spectrum Engineers in LOCOG's

Technology Operations Centre

- **Richard Meadows**, Spectrum Engineer covering activities outside the venues

Your support for this initiative introduced us to people who were very well motivated and with a high level of technical skill and expertise. We could not have provided such good service to our customers without their help. We had the benefit of learning from the experience and knowledge that they brought, and I hope that they too have returned with unique experiences and new skills.

Thank you again for your help in introducing us to these engineers. I think the exchange of knowledge between Ofcom and radio amateurs will be an enduring legacy of the Games. I see this as a model for further fruitful cooperation between us.

With best regards and many thanks again.

Yours sincerely,
Peter Bury
OFCOM

Myanmar Update

Simon Luttrell HSØZIB / G6JFY

29 December 2012: As my internet access is rather unreliable, I thought I'd wish all a very Happy New Year and give an update about my efforts to reactivate XZ land.

As some may know, I relocated to live and work in Myanmar specifically with the aim of reactivating the country on the amateur bands. This meant moving away from my wife and family in Thailand, and finding employment in Yangon (Rangoon), so that I qualified for a long-term visa.

As the government Ministry of Communications in Myanmar politely reminds me, there has been no permanent 'ham' in the country since 1964 – there have only been a few DXpeditions and such operations are no longer allowed. The last relevant law relating to amateur radio was issued in 1934.

My plan for a XZ license involved building up suitable high level contacts and relationships in the government departments and other important organizations. The issue of an XZ license would only be made by the Minister himself – no lower employee would dare to make such a decision and no lower person would dare to lend his/her support to my plans, (because if it all goes wrong, then I risk only a short jail term and deportation, whereas a Myanmar national risks a more severe punishment if they are found to be aiding a foreigner in some nefarious activity). This is why almost no local is willing to help me with my plans!

I started working in south Myanmar at the beginning of this year, and relocated to Yangon in July. I now work as a English teacher and also as a lecturer in electronics & telecommunications, (part of my plan…).

As far as issue of an XZ license is concerned, the government ministry has no interest at all in ham radio, and they are too busy with the updating of the communications law, (which makes no mention of ham radio), and issue of new mobile radio licenses. So my task is to convince the Minister of the value of ham radio to Myanmar. I have a two-pronged 'attack':

1 – Demonstrate how the ham radio hobby can instill an interest in electronics and communications amongst young Myanmar people, such that they go on to study these subjects at college – eventually being an asset to the country in it's efforts to improve the ICT infrastructure. (So this is where my telecoms lecturing comes into play).

2 – Demonstrate how amateur radio is a valuable asset in the provision of 'last mile' communications in times of natural disaster, (such as tsunami, cyclone, earthquake etc – all of which hit Myanmar on a regular basis). The UN recognizes the importance of ham radio in time of disaster and so I am pursuing this angle with my UN contacts in Myanmar.

To date, I can report a little progress in my endeavors, but over the past year I have learned a lot about the country, it's language, people and cultures – all of which are greatly helping me with my aims. I should say that Myanmar has a very complex history – both recent and over the past 500 years or so, and this means that some very 'delicate' considerations need to be brought into play as far as politics, religion and ethnic groups are concerned.

Anyway, I remain very hopeful of eventual success with my plans, and I'll keep my fingers crossed for some good news in 2013.

One point that I'd like to make is that I tried to make contact with the officers of IARU Region 3, to enlist their good advice with my plans. But alas – I never receive any reply to my emails! Perhaps someone on this forum can suggest a good contact email address that I can use.

On another note, I'd like to comment about the IOTA group AS-184, which is the Preparis Channel Group, and never yet activated.

It was generally assumed that activation of this group was all but impossible, due to the presence of a Chinese military airfield on Great Coco island. However, my research has revealed that the airfield is not a Chinese base at all, and Myanmar previously allowed Indian government officials to inspect the base, due to their concerns about it's proximity to the Indian Andaman Islands. Now, tourist trips by foreigners are allowed to Great Coco, leaving Yangon by ship each month and staying for a few days.

When I find out the ship timetable, I'll take a few days off work and go and visit these islands. I understand that there is a local school on the island, which is presumably in need of school books and equipment. I'll update you with my progress as and when.

DX News Briefs

The "Buddies in the Caribbean" mini-DXpedition team will be in Barbados (NA-021) 29 January - 6 February. The operators are **8P9FF** (W3FF), **8P9HF** (W6HFP), **8P9WZ** (WZ1P), **8P9RT** (WG0AT), **8P9VG** (KC4VG), **8P9DG** (KB9AVO), **8P9EA** (K8EAB) and **8P9UN** (N7UN). They will be operating 160 - 10, CW SSB RTTY & PSK. Several stations will be battery-only field portable from scenic mountain tops & beaches. QSL each via the home call — N7UN

VK2CCC plans to be active from Lord Howe Island as **VK9LL**, 22 - 29 September, 80 & 160. QSL via VK2CCC — VK2CCC

PA4N & PD9DX will be QRV as **CT8/PA4N** & **CS8/PD9DX** 26 March - 3 April, from Sao Miguel (EU-003), on the west side of the Sete Cidades volcanic mountain. They will be on all HF bands, SSB & CW. PD9DX will be active in the CQ WPX SSB contest — DX World

JA2VQP is teaching mathematics at a University in Papua New Guinea for the next 2 years. He hopes to be active as **P29NO**. No word yet on bands, modes, times, or QSL route — DX World

Look for JA1XGI as **V63XG** from Yap Island OC-012 3 - 11 April. More info at http://ja1xgidxvacation.blogspot.co.uk/ QSL via JA1XGI — JA1XGI

VK3GK is spending his 21st wedding anniversary as **VL3GK/9** from **VK9N**, Norfolk Island (OC-005), staying at the Governor's Lodge. He will be QRV 80 - 10, holiday style, mainly SSB — VK3GK

ST2SF should be QRV late January - mid April, SSB CW & some data operations, 40 - 10 M, possibly 80 & 6 Meters. QSL via KØYAK — KØYAK

SM6CPY will activate Rwanda, holiday style, as **9XØPY** 15 - 31 January. No specific details on bands & modes. QSL via SM6CPY — SM6CPY

DJ9KH will be QRV from OC-049 & OC-064 in Tonga as **A31WH** 20 Feb - 3 March. QSL via DJ9KH — DJ9KH

J8/W6HGF will be QRV 9 - 24 January, with a focus on RTTY. More info at http://www.qsl.net/w6hgf/J8-index.html QSL via W6HGF — W6HGF

5Z4/DF3FS & **5Z4/DL1QW** will be QRV, holiday style, through 20 January, 80 - 10 meters, CW SSB & RTTY. QSL via their home calls — DX World

K6VVA will be returning as **C6AVA** 11 -14 January, primarily CW, from North Bimini Island NA-048. He may also work the NAQP CW contest. Rick notes "Stations who repeatedly call out-of-turn (PIleup "Bullies") will be confronted and run the risk of NOT getting into my log." More info at http://www.k6vva.com/iota/na048/ QSL via N6AWD. — The Locust

The February **9U4U** DXpedition will be operating for 10 days non stop, running up to three stations simultaneously to the same antenna. There will be at least one station focusing on 160 & 80 each night. More information at http://www.9U4U.be — 9U4U via DX World

QSL Routes

3B9SP via HB9ACA — K7XM	EW6DX via EB7DX — EW6DX
4L1MA via ON4RU — KG4W	EYØA via UA4LCH — W8HGH
5H1HS via DL7VSN — KG4W	H44RK via NR6M — W2IRT
6Y9X via KQ1F — JA1HGY	HH4USMC via NR6M — NR6M
7O6T via UA3DX — KD1CT	HB9WFF via HB9FBI — DF6EX
A31JY via JA1JQY — JA1HGY	HT9H via TI4SU — JA1HGY
A31KJ via JA1KJW — JA1HGY	JW7XM via LA7XM — KG4W
C6AXY via K9XY — C6AXY	NH8S via AA4NN — K3BEQ
CEØCEW via CE3CEW — KG4W	P29NI via G3KHZ — W3AWU
CP4DR via KV7Q — KG4W	P29VPB via G3KHZ — W3AWU
CYØAA via W8RHM — WA8JOC	PJ7I via JG2BRI — JA1HGY
D2QV via UTØEA — JA1HGY	T6LG via LZ1ZF — KG4W
E51AIU via JJ8DEN — KG4W	TT8TT via I2YSB — KG4W
EL2DT via EL2FM — KG4W	V63EPO via JA7EPO — WA3FRP
EL2ES via AA7A — JA1HGY	V63PR via JJ8DEN — KG4W
EL2MF via KC7V — KG4W	VP2V/AA7V via NR6M — NR6M
EL2WS via N7CW — JA1HGY	XX9THX via EA7FTR — K3BEQ
ES5Q via ES5RY — W8HGH	Z6ØK via G3TXF — LU2DKN

TX5K CLIPPERTON ISLAND THE 2013 CORDELL EXPEDITION

WASH Classifieds

Information shown here is as supplied to the *WASH*Rag. Condition as stated, and all sales should be considered "as-is" unless otherwise noted. All subject to prior sale or withdrawal from sale at the owner's discretion. All responsibility for this information lies with the source and not the *WASH*Rag or the WIRELESS ASSOCIATION OF SOUTH HILLS, INC.

HAM RADIO INSURANCE ASSOCIATES, INC.
P.O. Box 201
Canonsburg, PA 15317-0201
Toll-Free 1-800-545-8881

Fax: (412) 746-5944
bill.hill@hamradioinsurance.com

"All-Risk" Amateur Radio Equipment Insurance Plan for:
Radio Equipment   Computer Equipment
Antennas Rotors & Towers   Computer Media & Software
Cellular Telephones
Mechanical Breakdown & Electrical Damage Coverage

Antenna Zoning or PRB-1 Issues?

Contact: **Michael S. Lazaroff K3AIR, Esquire**
Murrin, Taylor, Flach, Gallagher & May
110 East Diamond Street, Butler PA 16001
Phone: 724-282-3141   mlazaroff@murrinlaw.com

Custom Decals, Signs, Plaques and Wood-working from **Randy George N3ZK**

More information at his web site, Randy George Woodworking http://www.randygeorgewoodworking.com/

See his eBay store for special deals at http://stores.shop.ebay.com/Randy-George-Custom-Signs__W0QQ_armrsZ1

In September 2010, Paul Isaacs W2JGQ, of New York City, obtained a building permit for his Amateur Radio antenna support structure, comprised of a 40 foot tower topped by a Yagi antenna. Isaacs installed his antenna system on the roof of his four story brownstone — 58 feet above ground — in lower Manhattan.

Almost four months later — months after the erection of the system — the New York City Department of Buildings (DOB) declared its intention to revoke Isaacs' properly attained building permit, claiming that his Amateur Radio antenna system was not, in the Department's opinion, "an accessory use." Isaacs appealed the decision through the Department's bureaucracy, and when that didn't reverse the decision, he had a series of hearings before the New York City Board of Standards and Appeals.

In November 2012, the Board ruled that though perhaps uncommon, an Amateur Radio antenna system is indeed an accessory use under New York City's zoning ordinance and the building permit was properly granted. "The Board agrees with DCP [Department of City Planning] that the size of a use can be relevant to whether it is 'incidental to' and 'customarily found in connection with' a principal use," the Board wrote in its decision. "However, it finds that in the case of Amateur Radio towers, unlike cellular [towers] and certain other uses, there is no articulated standard to guide DOB in determining at what height a particular radio tower becomes a non-accessory."

The full decision may be found at http://www.antennazoning.com/main/page_amateur_radio_legal_library.html

ARRL Web Extra courtesy of the American Radio Relay League

Has Roadway found the tower yet?

FCC News

ARRL Web Extra courtesy of the American Radio Relay League

Newington, CT, December 30 th, 2012 — After unsuccessfully appealing to the FCC to cancel his $20,000 forfeiture, Joaquim Barbosa, N2KBJ, of Elizabeth, New Jersey was issued a *Forfeiture Order* stating that he must pay $16,000 for "willfully and repeatedly violating Section 301 of the Communications Act of 1934, as amended by operating a radio transmitting equipment on the frequency 296.550 MHz without Commission authorization."

The FCC noted in the *Forfeiture Order* that based on the examination process involved in pursuing an amateur license, "amateur licensees are expected to have an understanding of radio operations and pertinent FCC regulations, including &Part 97 of the FCC's rules governing the Amateur Radio Service. Licensed amateur operators know that they are authorized to operate only on the frequencies listed in Section 97.301 of the rules, as designated by their operator class and license. Pursuant to the Table of Allocations, the 267-322 MHz band — the band that Barbosa was operating in -- is allocated solely for federal government use, which we continue to believe Barbosa knew (or should have known) was not authorized for non-government use."

Barbosa's Amateur Radio license expired August 31, 2008, but his timely filed renewal application was listed as "Offlined for Enforcement Bureau Action" in the ULS. As such, Barbosa was legally allowed to operate while his case was undergoing the enforcement proceedings.

In February 2008, the FCC, after receiving complaints from an authorized US government user regarding "harmful radio interference from an unauthorized station operating on the frequency 296.550 MHz -- a frequency limited to US military operations -- in the Elizabeth, New Jersey area." Agents from the FCC's New York Field Office responded to the complaint and used mobile direction finding techniques on February 6, 7, and 11 of that year. They determined that the source of the transmissions was coming from a residential home owned by Barbosa. On February 11, the agents conducted an inspection of the home and "directly observed a transceiver whose display showed that it was set to transmit frequency on 296.550 MHz. The agents also observed that the transmitter was connected to an antenna mounted on the back of the house."

When the agents interviewed Barbosa, he admitted to operating the station and the transmitting equipment for at least four months, and confirmed that he owned the equipment. "Barbosa, who is licensed by the FCC as an Amateur Extra Class licensee (the highest level class), acknowledged knowing that the frequency 296.550 MHz was not a US frequency authorized for use by amateur licensees and confirmed that he did not have a license to operate on the frequency, the Forfeiture Order stated. "The agents advised Barbosa of the violation and issued him a *Notice of Unlicensed Operation* (*NOUO*)."

Barbosa told the FCC that he "truthfully acknowledged to the FCC agent who conducted the enforcement visit on February 11, 2008 that he did operate a transceiver on 296.550 MHz." Even so, he contended that cancellation or forfeiture reduction is warranted "because he reasonably believed that he otherwise had authority to operate the radio transmitting equipment using the frequency 296.550 MHz," saying that his authority is "not based on his status as an amateur licensee (which he readily acknowledges does not authorize him to operate on the US government frequency), but based on the authority vested in him by a Brazilian man, who is authorized to operate the radio equipment using the frequency 296.550 MHz in Brazil."

Mr. Barbosa told the FCC that "the frequency was one I knew to be an authorized Brazilian frequency for satellite communications and that I was operating on that frequency in compliance with a Brazilian permit as authorized by the Brazilian permit holder." Barbosa also said that the Brazilian man who gave him the radio as a "gift" was a licensee under Brazilian authority, and that this individual showed him the Brazilian authorization and granted him permission to operate under his license to use the frequency. He argues that, as such, he "honestly believed" that the "master authorization" he was shown authorized him to operate the radio using the frequency at issue and, therefore, he should not be penalized for relying on that information.

"We find Barbosa's arguments unavailing," the FCC said. "Even assuming for the sake of argument that Barbosa is authorized to operate the radio equipment under Brazilian authority, he is not authorized to operate any such equipment in the United States without Commission authorization and, therefore, is still in violation of Section 301 of the Communications Act. We emphasize that Section 301 makes clear that operation of *any* radio station *within* the United States requires FCC authorization, which Barbosa did not have."

The FCC also noted that Barbosa had not presented any Brazilian license that specifically authorized him to operate on 296.550 MHz.

WASHfest 2013

The South Hills Hamfest — Now in our EIGHTEENTH big year!

Sponsored by the WIRELESS ASSOCIATION OF SOUTH HILLS AMATEUR RADIO CLUB, INC.

Sunday, February 24th, 2013
8:00 AM until 3:00 PM Rain or Shine (or Snow!)

Castle Shannon VFD Memorial Hall

3600 Library Road (State Route 88), Castle Shannon, PA
Talk-In on 146.955(-) and 443.650(+) 131.8 PL

(800) 545-8881

DXCC Card Checking Available!
Thanks Art Lund NQ3A

Breakfast & Lunch provided by *JACK'S CATERING* of Peters Township

FREE Coffee for the entire Hamfest courtesy of HAM RADIO INSURANCE ASSOCIATES of Canonsburg, PA

MAIN PRIZES — *You've Got to Play to WIN!*

1st Prize:	Yaesu FT-897D
2nd Prize:	Kenwood TM-V71A
3rd Prize:	LDG AT-200 Pro 2 Tuner
4th Prize:	Clear Speech Speaker

Additional Hourly Door Prizes! Special Black Box Prize (Separate Drawing)!
Main Prize tickets are $2.00 each, 3 for $5.00, 7 for $10, 15 for $20
All Prizes Subject to last-minute changes

For Table Reservations, or More Information, Please Contact:
Carol Danko KB3GMN at (412) 884-1466 **n3sbf@comcast.net**
E-mail us directly at **washarc@yahoo.com** Check out our website too! **www.n3sh.org**

Please Note: Early Table Reservations must be paid in full on or before January 31st, 2013.

Reservations received after February 1st, 2013 must include payment in full.

Reserve now... we have sold out in advance four years running!

Hamfest Table Reservation Form—Please PRINT LEGIBLY ALL INFORMATION

Name:_____ Email: _____

Address: _____ Phone: (_____) _____ - _____

City: _____ State: _____ Zip: _____

Call Sign: _____

Tables WITH Electricity: _____ X $15.00 = _____

Tables WITHOUT Electricity: _____ X $10.00 = _____

Please make all checks payable to:
WIRELESS ASSOCIATION OF SOUTH HILLS
PLEASE MAIL RESERVATION TO:
*WASH*FEST 2013
C/O CAROL DANKO KB3GMN
4246 Seton Drive
Pittsburgh, PA 15227-1244

We reserve the right to resell any tables not occupied by 8 AM, unless prior arrangements have been made!

WIRELESS ASSOCIATION OF SOUTH HILLS, INC.
Membership Application/Renewal for 2013

I would like to join WASH!. I am interested in the following type of membership: ☐ **New Membership** ☐ **Membership Renewal**

(check quarter ————————➤)
(check one ↓)

	☐ 1st Qtr Jan-Mar	☐ 2nd Qtr Apr-Jun	☐ 3rd Qtr Jul-Sept	☐ 4th Qtr Oct-Dec
☐ (F1) Full Membership:	$20.00	$15.00	$10.00	$5.00
☐ (F2) Full Membership < 18 or > 65 yrs of age:	$10.00	$7.50	$5.00	$2.50
☐ (A1) Associate Membership:	$10.00	$7.50	$5.00	$2.50

☐ (FM1) Family Membership ($3.00 x No. of household family members): $_____

Name(s): _____

Name: _____   **Call Sign:** _____

Address: _____   **License Class:** _____

City, State: _____   **Expires On:** _____

Home Phone: _____   **Work Phone:** _____

Email Address: _____   **Birthday:** _____

New Members Only:
☐ **I do NOT want to be added to the Club E-Mail Reflector**
☐ **I do NOT want to be added to the Electronic Newsletter Mailing List**
  [If you have an Email address, you Will be added to both lists UNLESS you choose to Opt-Out]

ARRL Member? ☐ Yes ☐ No **Family ARRL Member?** ☐ Yes ☐ No

Date: _____

Amount Enclosed: $_____

Signature: _____

> *N3RDV has requested that 2013 membership requests and renewals include an application so that his information is up to date*

Please make your check or money order payable to the club treasurer, Mark Stabryla.
The Wireless Association of South Hills, Inc. reserves the right to accept or reject new memberships or renewals.
Please return completed membership form along with check/money order to the club treasurer or mail to:

WIRELESS ASSOCIATION OF SOUTH HILLS, INC.
c/o Mark Stabryla N3RDV, VP/Treasurer
1120 McKnight Drive
Bethel Park, PA 15102-2456

Join the American Radio Relay League or Renew Your Membership through the
WIRELESS ASSOCIATION OF SOUTH HILLS, INC.

Members of the WIRELESS ASSOCIATION OF SOUTH HILLS can start a new membership or renew an existing membership in the American Radio Relay League, the National Organization of Radio Amateurs, through the club. Benefits for you: Joining and participating in everything the League has to offer, including a QST subscription. Benefits for the club: A few more shekels for our coffers.

Just fill out the form below, include a check or money order made out to WASH/ARRL, and return all to the club treasurer or mail to:

WIRELESS ASSOCIATION OF SOUTH HILLS, INC.
c/o Mark Stabryla N3RDV, VP/Treasurer
1120 McKnight Drive
Bethel Park, PA 15102-2456

Name: _____   **Call Sign:** _____

Address: _____   **Date of Birth:** _____

City, State, ZIP: _____   **Total Enclosed: $**_____

Please Check the Appropriate One-Year Rate:

☐ **Additional Family Members at the same address ($8 per family member)**

☐ **$39 in US**

☐ **Age 21 or younger, $20 in US** (only if you are the oldest licensed amateur in your household)   **Name & Call Sign:** _____

☐ **Canada $49**

☐ **Elsewhere $62**   **Name & Call Sign:** _____

☐ **Other** (including Blind, Life, QST by First Class Postage — please contact ARRL for rate

  Dues subject to change without notice   **Name & Call Sign:** _____

Directions to Crossroads Ministries Church
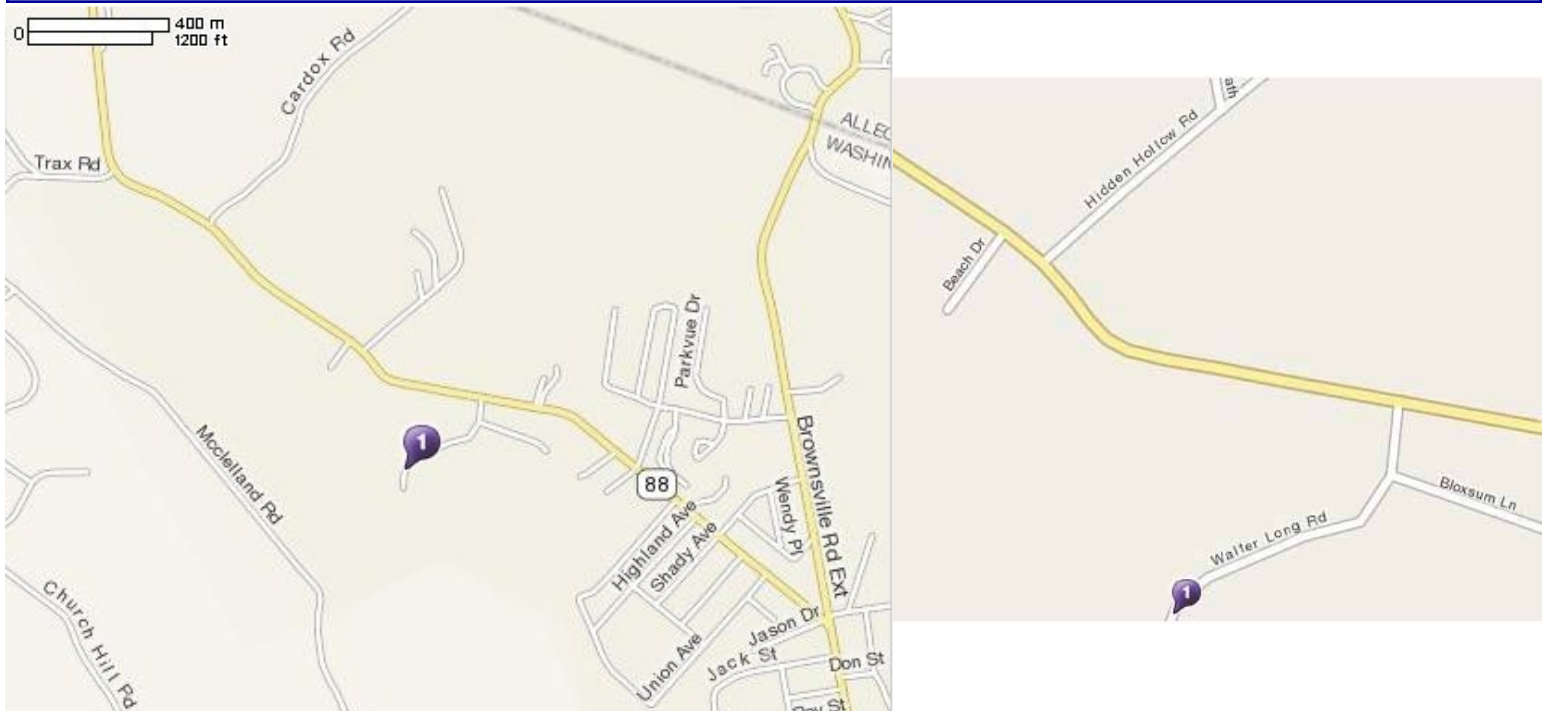
Take Library Road / State Route 88 to Walter Long Road (just past Mineral Beach & The Beach House), North of Finleyville. Turn onto Walter Long Road, follow it back to the church (which should be visible from the road).

The *WASH*Rag

N3SH / WA3SH
NP2SH/B
www.n3sh.org
www.washarc.org
www.washrag.info