



## Symposium: T-3



We are T minus 3 weeks and counting until the 2007 AMSAT Space Symposium! Pat Sanford and I believe we are on schedule with all of the arrangements. Many of you have been very helpful so far in key areas. Larry Comden K3VX has arranged for printing of the proceedings and obtaining materials from the Pittsburgh Visitors Bureau for the souvenir bag that will be given to each symposium participant. Paul Lusardi NØVLR and his sons are assembling the souvenir bag and Paul is

also recruiting middle and high school aged students to participate in some activities arranged for them. These include a satellite antenna construction workshop given by Richard Crow N2SPI. Ed Oelschlager N3ZNI and Jacque Gosselin N3ZEL have been busy contacting ham radio companies and soliciting for prizes. Their efforts are paying off as we have several prizes already. And, I have recruited college ham clubs and so far the University of Pittsburgh W3YI club will attend. I expect to hear from more college clubs when classes begin soon.

Dan McCann KB3HVN is ready to offer two types of collared polo shirts embroidered with the symposium logo. The first is a handsome black and gold shirt especially offered to club members who assist during the symposium. Maroon shirts embroidered with the symposium logo will



be offered to symposium attendees. There are two types of material, a wicking material that is priced at \$40 and a cotton blend shirt that will be offered for \$30. While the black and gold shirts are meant for club members, they are by no means mandatory. Please do not feel compelled to purchase a shirt.

Many club members who have offered their help during the symposium but did not know where we need help. Now you can check out where help is needed by going to the club website at [http://amsat.n3sh.org/index\\_reponsibilities.php](http://amsat.n3sh.org/index_reponsibilities.php). Here you can see where you can help and when help is needed. Randy George N3ZK, our fearless leader and webmaster, created this page and each time someone new adds there name, I am sent an email telling me all about it. There are still a few holes to be filled in, although things are looking good! Please check it for the latest updates!

Please stay tuned for late breaking news and if you need to contact me, give me a call at home in the evenings at 724-258-4153.

— 73 Kevin Smith N3HKQ

### Pa QSO Party 2007!

As the newsletter goes to print, we are only a few days away from the 50<sup>th</sup> Anniversary running of the Pennsylvania QSO Party!

Fifty years! That's quite an accomplishment for any activity, let alone one of the best regional QSO parties in the country... or even the world!

The Nittany Amateur Radio Club, and Pa QSO Party Chairman Mike Coslo KB3EIA have revamped and updated the rules for this year's contest. There are quite a few changes to note, including a clarification of the Canadian multipliers to be used; the second year for two Digital modes (RTTY and PSK-31), which will now permanently be part of the contest; and several new entry categories. More changes will be coming with next year's contest as they are still working on completely revamping the rules... including the elimination of the 1.5 point per CW QSO on some bands (next year, all CW QSO's will be worth 2 points).

Because of the extent of the rules changes, including some last minute corrections and clarifications, they've simply become too big to include in the newsletter (which is already big enough for 1 issue!), so we're unable to include them this year. Check out the Pa QSO Party web site at [www.nittany-arc.net/paqso.html](http://www.nittany-arc.net/paqso.html) for more information including the complete rules for this year.

Since the club has focused on the AMSAT Symposium this year, we'll be "low key" in this year's contest — but don't let that stop you from having fun with it! Don't have a station, or never operated a contest before? Check the club reflector and the repeaters for club members looking for extra ops for their stations!

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### Next Meeting: October 11<sup>th</sup>, 2007

The next monthly meeting of the WIRELESS ASSOCIATION OF SOUTH HILLS, INC. will be Thursday, October 11<sup>th</sup>, at the Peters Township Library, 616 East McMurray Road, McMurray, starting at 7:00 PM.

2008 Elections, The AMSAT Symposium, and the 2007 50<sup>th</sup> Anniversary Pa QSO Party operations will be amongst the topics of the evening.

Talk-in on the 146.955(-) N3RNX/R and 443.650(+) N3FB/R Repeaters (131.8 PL). All members, guests and interested parties invited!

# ALE On The Air Week: 05-15 October

Bonnie Crystal KQ6XA [aotaw2007@hflink.com](mailto:aotaw2007@hflink.com)

**AOTAW** (ALE On The Air Week) is an annual International Amateur Radio event sponsored by HFLINK, a resource for ALE, HF Interoperative Communications, and HF Emcomm. Ham radio operators worldwide are invited to participate in a 10 day readiness event of ALE HF activity on the air. AOTAW-2007 is an excellent chance to explore ALE communications. Start: 0001 UTC Friday 05 October End: 2359 UTC Monday 15 October Thousands of amateur radio operators worldwide have ALE capability now, using HF ham transceivers and computers running PCAL software, Multipsk software, or commercial ALE HF transceivers adapted to ham radio ALE use. The experience gained by operator participation is also useful for HF Emergency / Disaster Relief Communications.

**What Is ALE?** Automatic Link Establishment. In the hands of a skilled HF ham operator, ALE is a force multiplier. With the capability to call up a specific HF station, a group of stations, a Net, or a networked station, ALE is a versatile digital calling system for initiating and maintaining QSOs with SSB voice, data, text, instant messaging, internet messaging, or image communications. Each ALE station uses the operator's callsign as the digital address in the ALE controller. When not actively in communication with another station, the transceiver constantly scans through a list of frequencies in multiple HF or VHF bands, listening for its callsign. To reach a specific station, the operator simply enters the callsign just like dialling a phone number, and transmits a short digital signal burst. When the distant scanning station detects the first few characters of its callsign, it stops scanning and stays on that frequency.

The receiving station, which was muted up until now, typically emits an audible alarm and visual alert for the receiving operator of the incoming call. It also indicates the callsign of the linked station. The two stations' ALE controllers automatically handshake to confirm that a link is established and they are ready to communicate in any mode, such as SSB voice, text or image. All of this happens quite fast, usually within a few minutes.

A unique ALE Operator Certificate is available to operators who participate in AOTAW. To qualify for the certificate, the operator simply completes at least 5 QSOs through Automatic Link Establishment communications on HF or VHF. The initial ALE linking QSO can use SSB Voice or "AMD" Text Message (the standard text messaging format in all ALE systems). See AOTAW Guidelines and Details.

<http://hflink.com/aotaw> Additional certificate endorsements are issued to operators who link with 25 stations or more, or send 2 ALE-SMS text messages through High Frequency Network Pilot Stations.

**ALE High Frequency Network (HFN)** The HFN Pilot Stations are equipped with scanning ALE transceivers, multiband antenna systems, and special software control systems for internet connectivity. Ham radio ALE users in the field on HF connect with the HFN Pilot Stations to exchange digital ALE-SMS text messaging to and from internet devices such as cell mobile phones, black berry type devices, PDAs, PCs and laptops. The free service includes: HF-to-Cellphone message; HF-to-email message; HF-to-HF message

All HFN stations automatically exchange signal reports with each other every hour on every HF band, and all this ALE HF activity with signal reports and messages is displayed in real time on the web at ALE CHANNEL ZERO:

<http://hflink.net/qso>

Organized ALE ham activity began about 6 years ago, when a group of operators started working together to experiment with various methods of HF selective calling on HF. The need to call up emergency nets or inter-operability and liaison with government HF systems led many hams to adopt the US Federal Government ALE standard, called FED-STD-1045 or MIL-STD 188-141.

This standard caught on slowly in the ham community, initiated by a few operators with limited government surplus gear and some with expensive commercial equipment having embedded ALE or hardware controllers. They adapted the system into what has come to be known as Ham Friendly ALE, which includes ham-specific programming and use of frequencies in the automatic subbands. Now, with a ham HF transceiver, a computer as the controller, and an appropriate antenna system, hams can harness the power of ALE using one of the available software ALE controllers.

More information: <http://hflink.com>

## WASH 2007 OFFICERS

### EXECUTIVE COMMITTEE:

President	Randy George N3ZK
VP / Secretary	Frank Bobro N3FB
VP / Treasurer	Mark Stabryla N3RDV

### AND WE COULDN'T DO IT WITHOUT:

N3SH / WA3SH Trustee	Steve Lane W3SRL
NP2SH Trustee	Paul Jordan NP2JF
N3SH / WA3SH / NP2SH QSL Manager	Ed Oelschlager N3ZNI
VE Team Liaison	Jacqué Gosselin N3ZEL
Webmaster	Randy George N3ZK
Quartermaster	Harold Rosenberger K3HCR
WASH FM Net Manager	Kevin Smith N3HKQ
WASHFest 2008 Committee	Kevin Smith N3HKQ, Chairman Carol Danko KB3GMN Bill Hill W3WH Kevin Smith N3HKQ
Activities & Operating Events	Larry Comden K3VX
Ways & Means	Carol Danko KB3GMN
W3P PVGP 2007 Coordinator	Bob McCloskey W3RJM
AMSAT Symposium Coordinators	Kevin Smith N3HKQ Pat Sanford KC4WTT
Field Day 2008 Coordinator	Larry Comden K3VX

### CLUB-AFFILIATED REPEATERS, BEACONS, & DIGIPEATERS:

Mt. Lebanon	N3RNX / R	146.955 MHz (-)	PL 131.8
Mt. Lebanon	W3SRL / R	442.550 MHz (+)	PL 131.8
Canonsburg	N3FB / R	443.650 MHz (+)	PL 131.8
St. Johns, VI	NP2SH / B	28.276 MHz	Propagation Beacon
Canonsburg	N3SH	144.390 MHz	APRS Digipeater

**N3SH / WA3SH WASHNet, the weekly on-air net of WASH**, meets every Sunday Night, 9:00 PM ET, on the 146.955 & 443.650 repeaters.

All radio amateurs, WASH members or not, are welcome to join in!

## THE LEGAL STUFF

**"The WASHRag™"** (formerly **"The Mariner™"**) is the Official Newsletter of the **WIRELESS ASSOCIATION OF SOUTH HILLS, INC. (WASH)**

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The **WIRELESS ASSOCIATION OF SOUTH HILLS, INC.** was founded on August 23<sup>rd</sup>, 1993, as the original **SOUTH HILLS AMATEUR RADIO CLUB**, and operated under that name through 1998. WASH was also known briefly in late 1998 as the **N3SH AMATEUR RADIO CLUB**. It is not in any way affiliated with the "South Hills Amateur Radio Club, Inc." and is not responsible for that group, it's members, or it's actions in any way, shape, or form.

As always, special thanks to the owners of both the N3RNX/R Repeater System and the N3FB/R Repeater System for permitting the **WIRELESS ASSOCIATION OF SOUTH HILLS, INC.** and it's members to use their repeaters for club purposes. Special thanks also to Glen Roberts KE7FD of The Internet Guild for his assistance in providing space on-line for our website for back issues of **"The WASHRag™"** which can be found at [www.washrag.info](http://www.washrag.info)

# WASH Amateur Radio Club News Briefs

## Next WASH VE Test October 18<sup>th</sup>

The Next WASH VE exam sessions will be **Thursday, October 18<sup>th</sup>, 2007, 6:30 PM**, at the **Peters Township Library**, 616 East McMurray Road, McMurray, PA. Talk-in on the 146.955 MHz and 443.650 MHz repeaters. All examiners are ARRL VEC affiliated.

Walk-ins are always welcome, but if you plan on attending the test session, please contact VE Team Liason Jacqué Gosselin N3ZEL:

Telephone (724) 746-9235 or E-Mail: [n3zel@fyi.net](mailto:n3zel@fyi.net)

Please bring the following to your test session:

- Picture ID or other suitable identification (2 forms of ID required)
- Pen / Pencil / Calculator
- Original FCC license plus a copy of license (if upgrading)
- Original CSCE plus a copy of CSCE (if upgrading)
- Check or Cash in the amount of **\$14.00** (payable to: ARRL VEC)

Future test dates: Thursday, January 17<sup>th</sup>, 2008  
 Thursday, April 17<sup>th</sup>, 2008  
 Thursday, July 17<sup>th</sup>, 2008  
 Thursday, October 16<sup>th</sup>, 2008

Daniel Plants of Triadelphia, WV fell to his death on September 24<sup>th</sup> while working alone to dismantle a storm damaged radio tower belonging to WBGW AM in East Deer Township, PA. Plants was an experienced tower climber who worked regularly on sites in the Pittsburgh area over the past 30 years. He was about half-way up the 200-foot tower when he fell. Although he was wearing a safety harness and other rigging gear, it was unclear if it was attached to the tower at the time of the fall.

## Hello From Florida!

Hello to all my friends back in PA. We are doing fine in rainy, hot and humid south Florida. I got all my antennas up and they seem to be working okay. I have the big beam on the same tower that I had in PA. For the low bands I have a G5RV and 40M delta loop.

I hope to make some PA contacts in PAQP this year. Sure hope people show up on 20M. I might be able to make some 40M contacts at night. The static on 80M makes it tough. There seems to always be a lightning storm near by. I will be attending the Melbourne Hamfest and Florida State ARRL convention in the morning and getting on PAQP in the afternoon.

For those who operate RTTY, don't forget to look for me!

— 73, Ted W4ZE  
[ted@w4ze.com](mailto:ted@w4ze.com)

Richard Dillman from the Maritime Radio Historical Society reports a new United States class 1A common carrier Morse code Coast Station has been licensed by the FCC. Station KDR has been licensed to James A. Dalke in Bellevue, WA.

Dalke is a broadcast engineer who just happens to have a 5 kW Medium Frequency transmitter.

KDR is licensed for operation on 500 kHz and 482 kHz at 5 kW. Two people made applications. Dalke's was granted on September 24<sup>th</sup>.

— Amateur Radio Newsline #1573

A comfortable September morning greeted the **WASH Breakfast Gang** on September 30<sup>th</sup> at **The Beach House** in Finleyville. But much to our surprise on arrival... another group was sitting at our tables! Fortunately, there was plenty of space for all, and we quickly relocated to nearby tables. This month's gang included W3WH, W3LE, K3HCR, W3VFA, AE3DL, K3VX, W3WN, KB3FNM and Mary Lou. Discussions of the morning involved converting Lionel to steam, repairing an HF6V, US Radio Astronomy sites, the Pennsylvania Rail Road K4, hamfests, Pa QSO Party plans and operating, area copper thefts, the Inverted "L" antenna, MFJ antenna analyzers, the Historic Library Trolley Line, wireless routers, ISP's and e-mail, and remote operating from self-storage sites. And after breakfast, K3HCR showed off the brass model Railroad engine that's been his other pet hobby for the last few years! There was much, much more... but you had to be there!

So please join us for the next club breakfast, Saturday, October 27<sup>th</sup>, 8:00 AM at **The Airport Marriott Hotel**, 77 Aten Road, Moon Township (Coraopolis) Pa, in conjunction with the AMSAT Space Symposium (we'll find a place to squeeze in!) We'll return to **The Beach House**, Library Road / Route 88 in Finleyville, just south of Trax Farms and adjacent to Mineral Beach, on November 24<sup>th</sup>. See you there!

**Errata:** The photo of the AMSAT Symposium Committee meeting last month was attributed to Kevin Smith N3HKQ, who submitted it. The photographer and copyright holder, unknown to us at the time, was Jacqué Gosselin N3ZEL. We regret the error.

**Where does time fly?** The Pennsylvania QSO Party is almost here. The Symposium is right behind. But before those... our October meeting, which means **nominations for officers for 2008!** Who gets to sit up in front of the room and bang the gavel? It's up to you...

Ok, speaking of **The Pennsylvania QSO Party**... W3WN is planning to operate from home and could use an additional operator or two. (Just make sure you like dogs!) Some help could be used on Saturday morning in running a wire into a tree too... we also hear that some members of WACOM are or were planning to do a multi-op effort from WA3COM, but haven't heard anything else lately. Any last minute news or requests? Check the club reflector.

But just remember... every year, after the contest, we always hear from people who lament "if only!" If only they had equipment... a place to operate from... more than a few minutes to spare... the Pa QSO Party is a lot of fun to operate. No experience necessary, and if you don't have the license class to run HF yourself (or so you think), don't be afraid to ask. There's always someone willing to lend a hand or offer an operating position... if only they knew you were looking!

Anyway, speaking of future events... don't forget that we're not that far off from the **2008 Annual WASH 2 Meter Simplex Contest**; and **WASHFest 2008** isn't that much further behind! We hope to have the contest rules in next month's newsletter, so that everyone will have plenty of time to get ready for our local, club sponsored, fun event.

Don't forget that the last hamfest of the year, the **WACOM Hamfest**, is coming up next month down at the Washington County fairgrounds! This has grown to be very popular since it returned to the fall schedule — details are over on Page 6!

## WASHNet 2007 NCS Schedule

- |   |   |
|---|---|
| 10/07 – Hank KB3FNM                     | 12/09 - Kevin N3HKQ                     |
| 10/14 - Harold K3HCR                    | 12/16 - Harold K3HCR                    |
| 10/21 - Carol KB3GMN or<br>Richie N3SBF | 12/23 - Carol KB3GMN or Richie<br>N3SBF |
| 10/28 – Frank N3FB                      | 12/30 – Frank N3FB                      |
| 11/04 - Hank KB3FNM                     | 01/06 - Hank KB3FNM                     |
| 11/11 - Paul NØVLR                      | 01/13 - Paul NØVLR                      |
| 11/18 – Kevin N3HKQ                     | Alternates                              |
| 11/25 - Dave N3DFK                      | Dave N3IDH                              |
| 12/02 - Bill W3WH                       | Ron W3WN                                |

Join WASH or Renew your Membership for 2008 Today! Membership Application on Page 13

# Minutes, September 13<sup>th</sup> Meeting

Ron Notarius W3WN, Acting Secretary, **WASH**

Randy N3ZK, **called** the meeting **to order** at 19:02 hours.

A **moment of silence** was observed for recent silent keys and other deserving persons, followed by introductions.

A motion was made to **accept the minutes** of the August meeting as published in the September newsletter was made by Carol KB3GMN, second by Pat KC4WTT. The motion was voted on and passed.

**Committee reports:**

**Treasurer (N3ZK for N3RDV):** Updates since June read and accepted.

**Secretary (N3FB):** No report.

**VE Report (N3ZEL):** The next VE session is October 18<sup>th</sup> at 6:30 PM. VEs should contact Jacque, N3ZEL, to let her know they will be there.

**QSL Manager (N3ZNI):** All but one W3P card sent out. 71 cards and 4 certificates requested to date, approximately a 13% return.

**Repeaters (N3RNX, W3SRL & N3FB):** No report.

**Club Website (N3ZK):** Websites up and Operational.

**Public Service (N3RDV):** Operators needed for The Great Race.

**Activities (K3VX):** 3B7C and Route 66 Special Event stations operational.

**Contests (K3VX):** Pa QSO Party is next month, all are requested to operate if and as possible. K3VX & W3WH will operate from Larry's sons home in Montgomery County on Saturday and operate mobile across the state East to West on Sunday. N3ZNI mobile is up in the air at present. N3ZK, KB3KOT, NØVLR are going to Venango County. W3WN is probably operating from home in Allegheny County. No word on who will be using either club call this year.

**Newsletter (W3WN):** The September newsletter went out. On time.

**Quartermaster (K3HCR):** No Report

**Ways and Means (KB3GMN):** There will be a 50/50 after the meeting.

**FM Net (N3HKQ):** All seems OK, reminder about the check in sheets now being available on the club web site and about login procedure.

**President's Report (N3ZK):** Current update on the Tower Trailer project. Donations are being solicited from club members towards snacks and beverages for the Hospitality Room at the AMSAT Symposium. Regrets that some of Randy's goals for the year will not be reached.

**AMSAT Symposium (N3HKQ):**

- Kevin and Patty and others will be at the hotel tomorrow to check on antenna and tower trailer placement, including indoor to outdoor cable feeds and related safety concerns. They also hope to nail down remaining technical issues.
- The hotel is discouraging cable feeds from the tower trailer. We may need to use a tent or RV for the equipment. Equipment and the trailer will need to be stored at a nearby Comcast facility overnight.
- Volunteers are needed to record the various proceedings in .MP3 format for future web uploads.
- Prizes are coming in. Main prize is in.
- SDR 5000 to be demonstrated.
- Pittsburgh visitors & Heinz donations are in.
- 20 have signed up for the WPXI tour to date, space is limited.
- 8 to 9 students will participate in a class to be given by N2SBI to build antennas on Friday, and then track satellites Saturday. Dual band radios are needed. W3WN's IC-W32A was volunteered by N3HKQ. Bring PL-259 adapters! (or whatever you think you will need!)
- **WASH** is responsible for manning the hospitality suite on Friday and Saturday, but it won't be needed on Sunday.
- Help needed at the Registration Table on Thursday evening, Friday, and Saturday. Sign up (please!) at the club web site.
- We are still soliciting assistance from other clubs.
- Shirts are available from [www.onlygoodstuff.com](http://www.onlygoodstuff.com). The Black & Gold shirt is only available through Dan KB3HVN before the Symposium.

**Old Business:** None.

**New Business:** Jim WB4GCS would like to know who will be coming to the antenna tune-up/mentoring session.

# WASH Spotlight: N3SBF



Belated congratulations from all of us to Richie N3SBF for passing his Amateur Extra class license a few weeks back!

Photo courtesy of and © Copyright 2007 Bob Timmins AB3ED

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](mailto:newsletter@n3sh.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 Finleyville, 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

AB3ED	KB3IRQ	N3CZZ	W3RWS	WASH /MM	Silent Keys
AB3EN	KB3IVW	N3DFK	W3SRL	KA3UPY	
AE3DL	KB3IVX	N3FB	W3VFA	WASH GA	
K3EED	KB3KOT	N3FPF	W3WH	K3OL	
(Cindy)	KB3KQY	N3HKQ	W3WN	KB3IJX	K3EED (George)
K3HCR	KB3NSG	N3IDH	W4ZE	WASH NE	
K3LGM	KB3NVL	N3PN	W8LEV	NØPEU	KB3ENX
K3SGT	KB3NVM	N3QMV	WA3JPP	WASH NY	KB3FQT
K3VX	KB3ORR	N3RDV	WA3RVD	KE3XB	N3FZ
K3WJL	KB3PHJ	N3RNX	WA4ONC	N3YPB	N3KEH
KA3TWI	KB3PNE	N3SBF	WB4GCS	WASH OH	N3OBD
KB3DCO	KC4WTT	N3ZEL	WO3Z	N8DPW	N3SKR
KB3FNM	KE7FD	N3ZK	Heywood	WASH TX	N3SRC
KB3GMN	KN3A	N3ZNI	Eicker	K3LGM	N3XFE
KB3GMP	NØVLR	N9OKM	Woody	Jane Wagner	W3ZLK
KB3GMU	NØWPV	W3BC	Eicker	WASH VI	
KB3HFP	N2QIV	W3JJC	Lee Rice	NP2JF	
KB3HVN	N3AWF	W3LE	Jane Wagner		
KB3IAC	N3BPB	W3RJM			

Through August 30<sup>th</sup>, 2007

List compiled by

Mark Stabryla N3RDV, Vice President/Treasurer

(Meeting Minutes Continued on page 9)

## ***Broadcasters Continue Fight Againsts Wireless Networks***

### ***They Are Trying to Persuade the FCC Not to Allow Wireless Internet Services in the "White Spaces" of TV Spectrum, Plan Ad Campaign*** Nancy Gohring, IDG News Service

The association of television broadcasters launched a campaign on Monday, September 10<sup>th</sup> designed to persuade the Federal Communications Commission not to allow portable wireless Internet services in the so-called "white spaces" of TV spectrum. The move pits powerful broadcasters against some of the biggest names in technology, including Microsoft Corp., Google Inc., Intel Corp., and Dell Inc.

The broadcasters said they began airing a television advertisement as well as print ads in several Capital Hill publications on Monday. They also planned to send a letter to the FCC arguing that enabling portable wireless Internet services in the white spaces will degrade TV service for consumers just as they spend billions of dollars buying new digital TV sets. "This investment should not be jeopardized by the introduction of unlicensed personal and portable devices that are sure to interfere with television reception," the letter reads.

The campaign from the National Association of Broadcasters and the Association for Maximum Service Television comes in response to a report the FCC made at the end of July detailing its testing of prototype devices from the technology giants, which are working together as the White Space Coalition.

The companies, also including Hewlett-Packard Co, EarthLink Inc., and Philips Electronics North America Corp., had submitted prototypes of products that could operate in the portion of a spectrum band that a TV broadcaster doesn't use, known as white space. The devices were designed to look for broadcasts in the spectrum and then transmit only if the spectrum was free. But the FCC found that the devices didn't consistently detect the signals and could sometimes cause interference.

The FCC has already approved transmission in the spectrum for fixed devices. The prototypes submitted by the technology companies were of portable products.

However, two weeks after the FCC released its report, Microsoft filed a letter with the FCC explaining that the device it submitted was badly damaged and that's why it failed to adequately detect broadcast signals.

The broadcasters say that even if the devices work as designed, they won't protect digital TV sets from "devastating interference." That interference would cause an unacceptable hit on quality, they say. "While our friends at Intel, Google and Microsoft may find system errors, computer glitches and dropped calls tolerable, broadcasters do not," Alan Frank, NAB's chairman, said in a press release.

Even though the FCC found that the prototype devices don't consistently work properly, the agency said it is open to the possibility that future devices could perform better.

## ***Startup May Sue FCC Over Spectrum***

### ***M2Z Networks May Sue the FCC Over It's Handling of the Startup's Proposal for National Free Wireless*** Stephen Lawson, IDG News Service

On August 31<sup>st</sup>, the FCC rejected M2Z's plan to roll out free and paid services reaching at least 95 percent of Americas. For that service, M2Z asked for 20MHz of spectrum for which it would pay the government 5 percent of its annual gross revenue. M2Z proposed the plan in May 2006.

The FCC didn't rule on the plan within a year and apparently didn't look at M2Z's supporting documents because it never commented on them, according to M2Z Co-founder and CEO John Muleta. Legally it had to do both, Muleta said, so M2Z is considering filing suit in a federal appeals court.

The issue of wireless spectrum is heating up as the FCC heads toward its planned January auction of frequencies in the 700MHz band being vacated by analog TV stations. Google Inc. and others wanted the FCC to require wholesale access to that spectrum so multiple providers could offer services. It eventually included a provision for some spectrum to be usable for any application on any device.

M2Z wants to use spectrum between 2155 MHz and 2175 MHz (*below the Amateur 3 cm band — editor*), a band previously used for microwave links between carrier facilities, which the FCC set aside for AWS (Advanced Wireless Services) in 2000. The agency has no plan yet for how to assign the spectrum. In its order rejecting M2Z's plan, the FCC said "the public interest is best served by first seeking public comment on how the band should be used and licensed."

The order turned down M2Z's plan "without prejudice," meaning it didn't stop the company from proposing it again, according to Muleta. M2Z plans to participate in the future public comment process but believes FCC's indecision has gone on too long already.

"They took 15 months to decide that they really couldn't make a decision," Muleta said. Meanwhile, the country still lacks sufficient broadband competition, he said.

M2Z wants to deliver a free service, supported partly by locally targeted search advertising, at 384K bps (bits per second) downstream and 128K bps upstream. People would only have to give a valid e-mail address or phone number to use it. Like broadcast TV, the free service would be "family friendly," meaning it would filter out content that wasn't appropriate for children. A paid service on the same network would offer 3M bps and access to anything on the Internet.

Muleta knows who he's up against. He was chief of the FCC's wireless bureau from 2003 to 2005. M2Z, founded in 2005 and based in Menlo Park, California, is backed by Silicon Valley venture capital firms.

One wireless analyst said the free service wouldn't be fast enough for most consumers. He also questioned its "family friendly" content restrictions.

"At that point, you're not really giving Internet service," said Sascha Meinrath, research director for the Wireless Future program at the public policy group New America Foundation.

But even if its service never gets turned on, M2Z has done its part to foster broadband competition, Meinrath said.

"M2Z has pretty single-handedly shifted the debate," Meinrath said. Its plan to pay for spectrum through royalties rather than up front, as well as to make more efficient use of spectrum and offer a free service, are likely to show up in future spectrum allocation plans, he said. More efficient wireless networks should mean more bandwidth at lower cost, a better deal for consumers, Meinrath said.

***Is Tractus Eram Intentionally Left Vestis***

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## THE PENNSYLVANIA QSO PARTY

The 50<sup>th</sup> Annual Pennsylvania QSO Party, celebrating Fifty Years of "The Friendly QSO Party", sponsored by the Nittany Amateur Radio Club, will take place on October 13<sup>th</sup> & 14<sup>th</sup> 2007.

Contest chairman Mike Coslo KB3EIA has announced that a complete re-write and update of the rules has been completed and is now posted on the Pa QSO Web Site at <http://www.nittany-arc.net/paqsorules.htm>

More information on the Party and on what counties will be activated (or need to be activated) can be found on the Pa QSO Party Reflector. To add yourself to the PAQP reflector, use this link and follow instructions: <http://mailman.qth.net/mailman/listinfo/paqso>

# Antenna Mentoring Session @ WB4GCS

photos courtesy of and ©Copyright 2007 Larry Comden K3VX



222 MHz Beta Match



Measuring the 222 MHz Antenna



Adjusting the 222 MHz Beta Match



N3FB Vector Analyzer



Above & Below: WB4GCS Vector Analyzer



440 MHz Driven Element



Test Setup

On Sunday, September 16th, Jim Sanford WB4GCS held a small training session on antenna tuning and network analyzer use at his home. Several club members attended.

Plans were to tune a pair of 70 cm antennas and a 125 cm antenna, and to diagnose a 23 cm antenna that needed some TLC. Jim also held a short discussion on the use, care, and feeding of network analyzers and related equipment.

All work was done "on the ground"

Thanks Jim from all who attended on a great discussion and mentoring session!



## FCC License Stats 3007

George McCouch K3UD courtesy of [www.qrz.com](http://www.qrz.com)

Here is the analysis the numbers of individual FCC licensees covering the months of July through September 2007. It looks like the overall Amateur Radio Service numbers have increased by 1,176 from July through September. Technician, General and Extra all had an increase while Novice and Advanced had a decline. It seems like the large movement from hams upgrading to General and Extra has slowed down considerably from the last reporting period while the Technician class experienced some growth.

The numbers in the table are in comparison to what they were as of May 14, 2000, as this was when the code test was dropped to 5 WPM for General and Extra. It should also be mentioned that the numbers change every day, sometimes increasing and sometimes decreasing. I always use the last day of the previous reporting period, and the last day of the present reporting period.

- Total loss of 19,081 since 14 May 2000 (Was 674,792)
- Total Loss of 32,149 since April 2003 (All time high of 687,860)

	14 May 2000	30 Sept. 2007	Change
Novice	49,329	21,154	-57.11 %
Technician	334,254	313,887	-6.10 %
General	112,677	142,474	+25.44 %
Advanced	99,782	66,630	-33.22 %
Extra	78,750	111,566	+41.87 %
<b>Total</b>	<b>675,792</b>	<b>655,711</b>	<b>-2.97 %</b>

## *For The Love of Radio*

Eric P. Nichols, KL7AJ courtesy of [www.qrz.com](http://www.qrz.com)

### *His Parting Speech as President of the Arctic Amateur Radio Club*

The word Amateur comes from the Latin amator...literally "lover." It is used to describe any activity done for the pleasure of the activity itself, rather than for commercial or professional reasons. The difference between an amateur and a professional has nothing to do with skill level or expertise; but it has EVERYTHING to do with motivation.

We need to recognize that in the not-too-distant past, ALL radio was amateur radio...long before anyone figured out how to make money at it. In fact, most human innovation was first done by amateurs...people who explored new frontiers just for the challenge. Professionals in almost any field were the latecomers, and not necessarily any better at their particular field than the amateurs that preceded them.

Remember, amateurs built the Ark, and professionals built the Titanic.

From the very beginnings of "formalized" amateur radio, the government very wisely placed a well-defined partition between amateur radio and commercial radio. They are two very different entities, and exist for two very different reasons. There were some very good reasons commercial use of amateur radio frequencies was expressly forbidden. The most obvious, of course, was that we weren't supposed to compete with legitimate commercial interests. But, aside from this, the government mandated wall between amateur and commercial radio served the interests of amateur radio even more. It assured that there would be a pool of radio experts who had no ulterior motive other than the love of radio, untainted by shortsighted pragmatism. It was a guarantee against the future, based on the belief that the best and the brightest minds needed an accessible laboratory, a playground as unencumbered by politics as humanly possible, in which to explore their wildest ideas.

Many, if not most, commercial radio practitioners, myself included, got our careers kick started in amateur radio. Amateur radio was our training ground for the exciting careers that followed. Countless numbers of us have both commercial and amateur licenses, but we would never desire to see the partition between the two weakened in the least. It would be bad for both sides.

The future of Amateur Radio hinges on there being future radio amateurs. This seems pretty obvious, but it's nevertheless, a fact that seems lost on most of the current Amateur Radio policy makers. Kids aren't impressed with gadgets; they have enough of their own. We aren't going to impress them with a few new toys, no matter how slick the QST ham ads are. That's the bad news.

The good news is, we don't HAVE to compete with Madison Avenue. The same thing that attracted us old timers to ham radio...the love of radio itself...will still attract people...if we let it. The magic of radio is not dependent on, nor subject to, human technology or Homeland Security dollars. It is rooted in the very laws of physics that hold this universe together. If you can show a kid how to control of a small part of that universe, he will be a radio amateur for life.

True pioneers have always been a small minority. The future of amateur radio isn't in numbers; it's in vision. We need to seek out those few young people who have that innovative spark, who already have a desire to learn about radio, and nurture them; we shouldn't be trying to coerce or cajole people into the hobby who would rather be doing something else. We need people who can't imagine doing ANYTHING else. If we are to secure our future, we need people who are lovers of radio.

In other words, we need amateurs.

## *Real Men Don't Need Instructions*

Bob Raynor N4JTE courtesy of [www.qrz.com](http://www.qrz.com)

I like a funny story even if it is on me.

About a year ago, I bought a Yaesu FT-857D HF radio and a nice ARAS 120A screwdriver antenna that automatically tunes to the frequency you have selected on the transceiver. Yesterday I decided it had set around the house long enough, and decided to install it in my truck...where it was intended to be put a year ago. I found the right spot on the truck for the antenna and installed it. It took about an hour to run the coax behind panels and under the threshold of the door. It went without too much trouble.

The radio can be installed with the transceiver in a remote location with the head closer to the driver. I had built a small console that sits between the front passengers and had an ICOM 2720 remote head installed on it with the transceiver installed under the driver's seat. I wanted to install this HF rig in a similar manner with the transceiver under the passenger seat and the remote head on the little console next to the head of the 2720.

I took the 4 bolts loose from the passenger seat, turned it upside down and began the install. For your information, even a captain's seat on a truck is not a really light thing and to get it out takes some maneuvering and a lot of straining...besides having to go to the front door to get those bolts out and then moving the seat as far forward as it will go and then going to the back door to get those bolts out. That does not count the number of times that I left the wrench in the front floor board when I needed it at the back and had to then get unwound from between the seats and go fetch the wrench. After about 30 minutes, I finally got the seat out and upside down so I could work on it. I finally found some holes under the seat that would align with the holes on the transceiver bracket and got it installed. That sounds simple enough until you realize that there are 4 machine screws on the side of the transceiver that holds it in place on the mounting bracket and the mechanisms under the seat only allow about a half inch on each side to get them in and then get them tight. Then I wrestled the seat back into place...no easy feat in itself...and got the 4 bolts that hold the seat back in place. Keeping in mind the reverse of the above sequence where you have to go from one door to the other and forgetting the wrench again, etc. etc. Now keep this sequence of events in mind as the story progresses; because, it will come in handy later.

Now I have the remote head in hand and take about an hour to fabricate a piece of wood that will fit it at just the right angle so I can see it from the driver's seat. I recessed some screws, put the block on the console, fastened the remote head mounting bracket and was ready to mount the remote head to the bracket when I realized a problem. You remember I said I had installed that ICOM 2720 before? On the remote head of the ICOM, it has a receptacle for a cable that goes from the remote head to the transceiver below the driver's seat, and on the other side of the remote head, it has another receptacle for the mike cord. A cord coming from the transceiver to one side of the remote head and a cord from the remote head to the microphone on the other side. Very simple; straight forward and logical.

When I looked at the remote head on the 857, sure enough there was a receptacle from the transceiver...now attached under the right front passenger seat...to the remote head, but no place to plug the microphone into the remote head. That couldn't be right. Why have a remote head with a 10' cord when you have to plug the microphone into the transceiver with a 3' cord? I thought that was one of the stupidest things I had ever seen a Japanese radio company do, but there was only one thing to do. I had to remount the transceiver up on the console so the microphone cord would reach. How dumb?

You remember I said to keep in mind how difficult it was to take that seat out, etc.? That is exactly what I did. When I got the transceiver out, I put the seat back with all the difficulties related above...sans the transceiver. I then found a proper place on the console for the receiver and mounted it there...after having to move a speaker about 2 inches so I could get the screws into the mounting bracket for the transceiver. Now the transceiver is mounted within 6" of the remote head...looks like crap, but the microphone is now accessible. I found the cable that goes between the transceiver and the remote head...it won't fit. I then saw another package of cables and discovered it was the correct 10' cable that goes from the transceiver to the remote head, but what was this other 10' cable? After looking at it for about 10 minutes like a calf looking at a new gate, a terrible thought struck me...sure enough...that

**Grown Man Continued on Page 13**



# Wire Antennas: The Good, The Bad, and the Ugly

Arlie Edwards KE5DYD courtesy of [www.eham.net](http://www.eham.net)

The following notes are from my experiences during the last 5 years of intense experiments with various wire configurations for the 80, 40 and 20 meter bands during the solar minimum. The hope is that some of the newer hams just might get some insights into the wonderful world of antenna experimentation and roll their own, so to speak.

**CAVEAT:** All antenna evaluations are purely subjective and as we all know, to the ham loading up a slinky in his attic a full size dipole will be nirvana.

The "I can work anyone I hear" mantra can be seriously misleading but probably true for all the wrong reasons. So the following observations are from on air tests with familiar stations across the 50 states and friends from around the world. None of the antennas were store bought as I will leave those evaluations to the hype in their advertisements.

**80/75 METERS:** My primary need on this band is for an antenna that allows me as a NCS to hear and be heard by stateside check-ins on a nightly basis. My secondary goal was, of course, to be able to work some DX down the band.

- **Best To Date:** 40 meter Extended Double Zepp with 85 ft. ladder line to a one to one balun with coax to the shack. On 80/75 it is slightly long at 3.940 MHz, but is flat down in the DX window. Of course on 40 meters it has some real gain in a bidirectional, rather narrow, pattern to Europe and the US.
- **Second choice:** Flat-Top dipole North/South or an inverted Vee, The flattop exhibited slightly more directionality broadside then the vee and was more quiet during the summer months. All flattop antennas were between trees with an average height of 50 ft. Inverted VEE was 45 ft to center.
- **Third choice:** Full wave vertical loop based on the Radio Works super loop. This one I got up to 70 ft. on a neighbor's tree with the other end at 60 ft. in my yard. Finally got it loaded with a tapped 450 ohm stub to a one to one balun. After many A/B tests against the Extended Double Zepp over two months I could never get it to beat the ZEPP any time of the day on any part of the band.

**40 METERS:** Due to my work schedule this is the band where I can spend most of my operating time and so I have invested much effort to squeeze out every available DB from my antenna experiments. The antenna of choice on this band needs to handle a WAS net including AK and HI where I am often the NCS and as such, I need to hear those guys when they are on. Also this is my main early evening DX window operating time so I need a good wire with gain.

- **Best To Date:** 40 meter 2 element ground mounted diamond shaped quad, reversible. See: <http://www.n4jte.blogspot.com/>. This antenna is a parasitic array with 20 ft. spacing that has out performed any other wire I have tried.
- The top corners are at 45 ft. on pushup masts and the ability to switch directions instantly with gain has made 40 meters my favorite band for local and DX work. A pleasant surprise was the fact that although basically orientated East/West I still have excellent copy to the north and south due to the wide beam width, so good that I took down a dedicated south sloper no longer needed, also freed up one of trees! When 15 meters is open it works extremely well in all directions, not sure why but who cares.
- **Second Choice:** 40 meter Extended Double Zepp. Kept this one up a long time for comparison purposes. The gain it exhibits is obvious compared to a reference dipole at the same height but beware that gain comes with a very narrow beamwidth, was not a problem with me until the FB starting showing back up with a vengeance and I put the quad back up. If you need gain in two directions on a consistent station to station schedule, the zepp is the way to go, great value antenna.
- **Third Choice:** 2 element phased verticals broadside switchable end-fire configuration. Used this antenna on 40 meters for many years in Florida with exceptional results, big disappointment in NY. Gotta believe my ground conditions did this one in. Major time investment in radials and absorbing many books on the subject left me with a better grasp of phase systems and farfield requirements but not much of an antenna for my needs.
- **Fourth choice:** 4 element sloper, K4AY type with folded in ends. Had high hopes for this one after figuring out a center support of 60 ft. tall. This time my greatest difficulty was getting the 4 different feedlines to have equal SWR when switching directions. Gotta have those feedlines perfectly equal in electrical length, not for the faint of heart. After a month with it I was not impressed as the Extended Double Zepp was always 3 to 5 s units better in the same directions.
- With the folded in ends I was hoping to be less subject to crummy ground conditions but I might not have gotten the phasing correct. Big reason I went back to parasitic arrays.

**20 METERS:** For the one or two hams out there that don't have a tower or beam for this band, including me, I needed to find a way to get on this band with some real gain, mostly for some DX contacts. This time of year at around 5pm local there are a lot of dx stations calling cq.

- **Best To Date:** 20 meter Extended Double Zepp, yep back to the old Zepp again. The secret to this antenna is to make sure it's pointed at the area you want to work most consistently. At 65 ft. long, it should not be impossible to run two at right angles to each other and cover the world with a true doubling of power and reception. The Zepp needs to be fed with the appropriate length of 450 ohm matching section in order to match to 50 ohm coax, there are many sources available on line or books that explain transmission line theory and I am still learning more on that subject daily.
- **Second choice:** After I attempted, and failed miserably to construct a full size 2 element 40 quad on push up masts I ended up with a couple of homemade spider mounts and LOTS of fiberglass spreaders. So I built a 20 meter single element quad using the old Armstrong rotator up about 20 ft to the bottom wire. As the Zepp is pretty much useless stateside except the Southwest, the single quad does a remarkable job of filling in all the blank areas and enables consistent QSO's stateside.

**Wrap Up:** I am fully aware of the fact that all our antenna options are limited by many factors, I am lucky enough to have a reasonable sized backyard and an oblivious neighbor with a handy tree, all of which was scoped out before I bought the house!

There are thousands of wire antenna designs out there and they all work to some degree depending on your needs and expectations. I concentrated on mostly single band matched antennas with some gain that fit my needs and bands of interest. Others may wish for multi band single feedline antennas and that's fine too. I hope the readers of this article would consider their best experiments and share their experiences also.

As I aimed this article at the newer hams out there looking to step up their antenna systems, I would hope that some of my experiments will jog your interest and perhaps inspire you to explore wire antenna design more in depth. The satisfaction of communicating on a piece of wire that you designed and stuck up in the air is only exceeded by the fun you will have and the lifetime friends you will make in the process.

See you on the Greyline!

## Meeting Minutes Continued from Page 4

**Good of the Order:** Ron W3WN brought members up to date on news from KA3UPY / MM. Randy N3ZK will be making plaques for the Christmas season for \$20.

**Motion to Adjourn:** By Carol KB3GMN, second by Glen KE8FD. The motion was voted on and passed. The meeting was adjourned at 19:40.

# Honey, I Shrunk the Tower!

Steve Katz WB2WIK/6 courtesy of [www.eham.net](http://www.eham.net)

If only it were that easy.

I see a lot of discussion on the ham "boards" about a subject near to my heart: Antenna systems. Or the lack thereof. It is frequently posted that "I have no restrictions, other than the XYL." Or, "I have no restrictions, but can't put up a sixty foot tower." Lots of stuff like that. Makes me wonder "What's going on here, anyway?"

It's sad enough that a lot of people are saddled with restrictive covenants prohibiting almost everything including outdoor antennas. CC&Rs are a serious issue in our country and surely a terrible thing for ham radio. But besides those, I see a lot of restrictions hams simply place upon themselves. "I wouldn't do that to my neighbors!" "I don't want to decrease my property value!" "My XYL won't approve it!" Oh, baloney.

I read between the lines when possible. A lot of these statements can really be taken to mean, "I'm too lazy!" or perhaps, "I've never had a real antenna, so I have no idea what I'm missing." Or in some cases, perhaps, "My XYL wears the pants in the family, and I just stay in line."

## Some points to ponder

- The presence of properly installed amateur radio antennas has never reduced the property value of anyone, anywhere, including the amateur who has them or his neighbors; if you think they do, cite the case using names and addresses and we'll research it.
- Installing real, working antennas, including towers to support them, is not a major undertaking. In fact, it's a small undertaking in most cases; and as with most things, it takes no more time or effort to "do it right" than it takes to do it wrong.
- A tower of any height will fit in any yard. I have a small lot, and I've owned several houses on small lots; that certainly hasn't caused me to think I can't install a tower. When planning a tower, think "up." Although my lot is small, the sky over my yard is just as high as it is anywhere else.
- Towers needn't be expensive; most of the ones I've owned and installed for myself were "used," and procured very inexpensively. Of course, that meant in most cases I had to take them down.
- Great antennas needn't be expensive, either.
- Marriage is a contract between two people who should be equal partners; I would never consider telling my XYL she can't plant roses in the garden, and she would never think of telling me I can't install my next antenna or tower.
- Neighbors will never complain about antennas if you install them properly and you don't invite the complaints.
- Higher antennas draw fewer looks from neighbors or anyone else because people don't go around looking "up;" and when they're higher, they look smaller.
- Few people would spend \$3000 on a stereo system and connect it to \$20 speakers; spending money on ham equipment using crappy antennas is similar.
- You cannot possibly know how well or poorly your antenna works without having others to compare it to. Everything works great when it's the only thing you have: A 1985 Yugo is a great car.
- Most of us want to be best, or better than the next guy, or better than we were yesterday, if we can. Part of the fun of ham radio is the competition, and this doesn't imply contesting; the most bang for the buck in developing a competitive signal is surely an investment in antennas.
- A \$10,000 rig connected to lousy antennas will make some contacts, but a \$500 rig connected to great antennas will make thousands and thousands of contacts.

Antennas are the second most important thing under our control. Operator skill is the first; everything else is a very distant third.

## How do I do that?

What bothers a lot of people about towers is they don't have any idea how to install one. Fear of the unknown has held back a lot of potentially great efforts.

Join a local ham club or two and get some help from people who have done this before. You might even find a local who is a tower installer, a real professional who knows what he's doing. Don't expect a professional to donate his work and time for free; but advice over a beer usually is free and if it comes from the right source, it's worth the price of the beer - or maybe several cases.

If you have the funds, I always recommend hiring a competent professional installer for this job; however, a lot of (probably most) hams do their own tower installations and maintenance, and 99.9% of them don't kill themselves, so it must work out. The advantage of hiring an experienced professional is you'll get a professional installation that's to local codes and is assured of following all the engineering specifications. Another advantage is you can write one check to pay for it, and you're all done. The disadvantage is that check can be quite large.

For do-it-yourselfers, the 20 steps to a tower installation are really simple:

1. Find out what kind of permit is required. Unless you're in an "unzoned" area, there probably is one.
2. Never ask for permission to install the tower. Go to the County or City zoning or building and safety office and tell them you're putting up a tower. What you are "asking" about is what kind of permit you need, and where you apply for it.
3. If anyone ever says, "Oh, you don't need a permit for a tower," get that in writing and make sure it's signed by an official, on a City or County government letterhead. Get the full name (printed) and title of the person signing this. Otherwise, you don't have squat.
4. Returning to reality, once you find out what kind of permit you need, you can also research what the local ordinance is pertaining to your planned tower. This is not a big effort, it usually takes an hour. Make copies of any documents you can, so you can bring them home.
5. Follow the zoning/building/safety rules and plan the site for your tower. It can be next to the house or far from it; but it shouldn't be within falling range of power lines or your neighbors' houses. Other than those two stipulations, as far as I'm concerned, anything goes. But see what the ordinance requires and if you cannot follow it, you may need a variance and you may need a lawyer.
6. Take a deep breath, all of the above should not take more than 1-1/2 or 2 hours of your time.
7. If it looks like a "go," plan your tower with regard to manufacturer, model, and base excavation/foundation requirements. Always go by the manufacturer's recommendations, using them as "minimum" guidelines. If the manufacturer stipulates a 5' deep hole and 3 yards of concrete, it is very acceptable to go 7' deep and use 5 yards. I've never seen a permit denied due to "over engineering."
8. I'd get the tower and its base hardware (the tower base or recommended method for anchoring it) on hand before digging one ounce of dirt. This is to be absolutely certain that the foundation you're digging is exactly correct for the tower you have. If you don't have a tower, you can never be sure of that. Also, your actual permit may be tied to exactly the make and model of the tower, and having a city or county engineer inspect the tower documents (blueprints) and the tower itself. Can't do that unless you have a tower.
9. Dig the hole! In my case, being slightly lazy and very expedient, I almost always employ someone else to do this. My last tower excavation involved my discussing the requirement with my gardener/landscaper, who in turn translated everything into Spanish and explained it to two of his friends. They all showed up with a pickup truck, a wheelbarrow and three shovels the next morning and the hole was completed before I returned home from work that day. It cost very little. They carried away all the dirt and rocks from the dig and left the place as neat as it was before they started.

10. If "building and safety" requires the excavation be inspected prior to pouring the concrete, now would be a good time to call them and schedule that.
11. If not, do what is needed to install the base or anchoring hardware, along with rebar requirements as specified. Build a little frame to contain the concrete pad above grade so the resulting foundation is neat, clean and square.
12. These last steps take maybe one hour. Don't sweat it.
13. Call the cement yard to request delivery of the amount of concrete you need. Tell them what it's for (a radio tower base). You'll need construction grade aggregate, and they'll know what to use for your area and soil conditions. A cement mixer usually holds 10 cubic yards, and you probably won't need that much. They'll likely charge more for a "short" order. Too bad. It's still not expensive.
14. If your excavation is accessible for a very heavy truck to pull right up to it, this will be easy. If not, you may need to "barrow in" the concrete (ugh) or "blow in" the concrete (much easier, but they charge extra for this). Figure that out in advance, and tell the cement yard all about it.
15. Pour the foundation. Take photographs of the process. You may need them for the local engineer to sign off on the final permit.
16. Trowel the foundation. If you don't know what you're doing, the guy with the cement truck does.
17. Wait 28 days for the concrete to cure to most of its ultimate strength. Depending upon the weather, the cement truck guy may advise you to spray the pad down with the fine spray from a water hose now and then for the first few days. Fresh cement lets off a lot of heat. Whatever they advise, do it.
18. During the 28-day wait, plan how you're going to raise the tower. Options abound. Get advice. Do it safely. A small crane is almost always a "safe" way, but there are others. "Buildable" towers like Rohn sections usually go up one section at a time, using a climber, a base assistant and a gin pole. Telescoping towers (my favorite) go up all at once, with the sections nested - but it's still the full weight of the whole tower.
19. Erect the tower. Never be alone for this unless you're using a crane with a skilled operator and he's doing almost all the work.
20. Make sure it's level and all the hardware is tightened. Step back and enjoy looking at it. Plan the next step, which is antenna installation; or rotator and antenna installation; or whatever it is.

If you've planned pretty well, all 20 steps will consume about one full day of your life, plus the 28-day wait for the concrete to cure. Okay, that's 29 days. It's worth it.

### *New or used?*

New towers are great but expensive. Used towers are almost as great and a lot cheaper. But you have to be careful when acquiring a used tower. Some things to look for and beware of:

- Try for a used tower that is still a currently manufactured model. Two reasons this is important: (1) You'll be able to buy a new base and other accessories; (2) You'll have access to engineering drawings, blueprints and specifications which are often impossible to obtain for non-current models.
- Don't be too worried about the above suggestion: Most tower models are on the market for decades. If you buy a Tri-Ex W-51, LM-354 or LM-470 or DX-86 telescoping tower, for example, many of which were made more than 30 years ago, those are all still "current" models. The stuff U.S. Tower sold 20+ years ago are all still current models, too. Ditto for Rohn 25G-45G-55G etc.
- It's "much" easier (and usually much cheaper) to get a permit for a tower when you have the manufacturer's actual base or installation hardware and the manufacturer's specifications and blueprints than if you don't.
- If possible, be around to take the used tower down or at least be present during that operation. A great deal is learned in this process. You can carefully examine the original base and everything about how the tower was originally installed. If you get to climb the tower in the "removal" process, you'll know how secure it is - or not. You'll have the chance to "opt out" of the deal altogether if you think the tower's not a good one.
- Another reason to take the tower down is that way you'll know exactly how long it's been "stored" laying on the ground, horizontally - which ages a tower faster than being stored "upright," because when the tower is horizontal, any water that falls on it doesn't drain properly and accelerates the rusting process.
- Avoid used towers that show signs of rust. Good galvanizing lasts 30-40 years, longer in dry climates.
- Avoid used towers that have been laying directly on the ground and not supported by something to keep them above ground level.
- Avoid used towers that have any visible signs of damage at all. Good towers can be installed, removed and reinstalled several times without damage.
- And most of all, make sure the tower you buy - new or used - is suitable for the antennas you intend for it to support! "Suitable" includes wind load and wind speed ratings and boom length/torsion ratings. Many towers that can easily support 1000 lbs or more of dead weight cannot support a 30 lb. amateur antenna having 35' long elements, like a 20 meter beam does.

Even with all these caveats, a good, solid, strong, functional used tower is pretty easy to find!

### *The advantages of a tower*

- Your antenna will be higher than if you didn't have one. Higher antennas work better. How much better depends on a lot of things. If you were accustomed to using an HF vertical or a dipole and upgrade to a beam at fifty or sixty (or more) feet, you're going to be very pleasantly surprised. For VHF, you might be even more surprised.
- If you place the tower strategically, your antennas will usually be less noticeable than they would be if they were on a pole in your backyard or on your roof.
- If you do this really well, you can make all the cables just about "disappear" by routing them from antennas, down tower, to shack in such a way that they're very hidden most of the way.
- If you erect a telescoping tower, a big advantage is you can lower it if you go away or in anticipation of a storm. A "lowered" system on a tower that's fully retracted can often withstand hurricane force winds, even better than a guyed tower can. You may lose antenna elements, but the tower should remain.
- A tower also allows you antenna experimenting options that can be an awful lot of work without one. I can "swap HF beams" in less than one hour by simply going up the tower and lowering down one, then pulling up another one and clamping it onto the mast: Even if the beams weigh 60-70 lbs. After that, I get help. I used to do 90 lb beams alone, but that was when my back was younger.
- A tower also allows you a lot of antenna mounting options. Rotating beams over the top of the tower; inverted vees and slopers hanging off the tower on small standoff brackets; verticals or other antennas clamped to the tower sides on longer standoff brackets. A decent tower can hold 6-8-10 antennas without strain. You probably wouldn't want that many on your roof.
- One last advantage, and it's a goody: If you sell your house to another ham, you've just increased the value of your home by more than the tower and its installation cost. "I guarantee it." I've sold my houses to other hams, before: It's pretty easy to do if you have a good and permitted (legal) antenna tower installed. In one case, I asked about \$10K above fair market (appraised, comparables) value simply to "leave the antennas in place," instead of taking them down. The ham buyer was extremely thankful and very happy to pay the extra \$10K. That was a case where I made a profit on the towers and antennas.

*But I'll only be here a year or two!* So what? I just described that a tower installation usually takes 29 days. One day of actual work, and 28 days of waiting. That's four percent of the time you'll be in your home if you stay there two years, and provides 701 possible days to enjoy your antennas. Very much worth it.

*The XYL hates the idea!* I hate the idea of visits from the in-laws, but I have learned to live with it. Cheer her up. "When the tower's installed, we're going to dinner at your favorite place" might help.

## Palmdale, CA Orders Ham Antennas

### Taken Down Amateur Radio Newsline #1573

A Palmdale, CA ham has had his permits to install an antenna on his property revoked. This, after neighbors complained that his ham radio operations were interfering with their consumer electronic equipment and posed a threat to their safety.

Heeding complaints from these residents, the city's Planning Commission voted unanimously Thursday, September 27<sup>th</sup> to revoke the minor-modification permits obtained in 2005 by Alec Zubarau, WB6X, to erect a tower and antenna. Asoka Herath, Palmdale's director of planning says that the vote means Zubarau will have 10 days to ask the City Council to overturn the commission's ruling. The decision also means that within 14 days, Zubarau must cease using the tower and any antennas that now are considered illegal.

Zubarau will be allowed to re-apply to the city for any permits he would need to legally install and use other antennas. If the commission's decision is appealed but upheld by the City Council, Zubarau will have to dismantle the antenna tower he constructed earlier.

Earlier this year, Zubarau's neighbors came to the city alleging his radio transmissions were interfering with the television, radio and telephone reception. In response, Zubarau said his radio equipment met all standards set by the Federal Communications Commission and should be having no effect on his neighbors.

Zubarau's attorney Fred Hopengarten, K1VR, is quoted in news reports as saying that if interference were a problem, it would be up to those neighbors to find, acquire and install interference-eliminating equipment.

At least 10 people, including three attorneys, spoke in Zubarau's defense. They advised the planning commission any interference by the city with the operation of a ham radio station could violate federal regulations. Attorney Pamela Royce, W6PNW, told the commission that it should consider very carefully the cost of possible litigation if Zubarau is forced to take his antennas down or is forced off the air.

## Attitudes towards New Ops...

R.K. Harrison AE4RK courtesy of [www.qrz.com](http://www.qrz.com)

*Many old timers in this radio game of ours look with scorn upon the efforts of the newer man because they feel that it is so much easier now-a-days for the neophyte to obtain his first license than it was ten years or so ago. In many respects they are justified in their belief that the road to your first ticket does more closely resemble the primrose path than it did when they traveled it.*

So wrote Harold P. Westman in the October 1928 issue of QST magazine (page 46). He went on to say that the numerous beginners' textbooks and magazines which existed in 1928 simply weren't available when the old-timers got started.

Imagine how Westman and his contemporaries would have felt about the guys who got their licenses in the 1950s and afterwards, with access to Morse code courses on phonograph records, factory-mode receivers and code practice oscillators, numerous textbooks and license study guides, and often a father or uncle who was a ham and would help them learn the ropes.

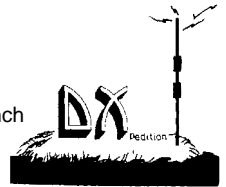
The rest of that QST article was interesting. Westman described how the original hams usually started out with home-made spark rigs that had very limited range and he viewed this as a good thing because the guys could polish their Morse skills and operating procedures in a friendly neighborhood environment.

*Three, four, or five-cornered conversations were not unusual and were lots of fun. Sometimes you only discovered how many interested listeners there were by the number of different HI's that followed a 'wise crack'! Those of you who have but recently been granted your licenses are missing something very worthwhile when you are unable to indulge in this sort of 'community' life.*

He then revealed that the ARRL was going to organize some beginners' nets on the "1750 kilocycle band" so the newbies could help each other out. The League viewed the 160 meter band as the ideal training grounds because newbies would only be able to afford low-power rigs and small antennas and that would limit the range of their signals. "We will endeavor to duplicate conditions as they were ten years ago," Westman wrote. Look at that sentence!

(1928 Continued on page 13)

## DX News Briefs



The Clipperton 2008 DXpedition received their landing permit for Clipperton Island from the authorities in French Polynesia in mid September, according to N7CQQ. The group is now in "full speed ahead" preparations to activate as **TX7C** on or about March 2008. More information at [www.clipperton2008.org](http://www.clipperton2008.org) — N2WB, N7CQQ

Wayne W5KDJ will be in **C9** Mozambique over two weekends, November 29<sup>th</sup> through December 10<sup>th</sup>. He will be CW only and making 160 & 80 meters a priority. He will be using a 72 foot vertical that saw great success in Botswana as A25KDJ last July. — W5KDJ

PA4JJ will again be QRV as **C56JJ** November 30<sup>th</sup> through December 7<sup>th</sup>. QSL via PA4JJ. Logs may be available at <http://c56jj.pa4jj.nl> — PA4JJ

**Old IRC Update:** According to US Postal Service Bulletin 22215, issued September 13<sup>th</sup>, old US issued IRC's before 2002 (the small "no expiration" ones) can be exchanged for stamps at a US Postal Service post office until October 11<sup>th</sup>. After that date, they become worthless for postage in the US. Pre-2002 IRC's not issued by the USPS will not be redeemed.

US issued IRC's that expired on December 31<sup>st</sup>, 2006, can still be redeemed at USPS post offices until September 1<sup>st</sup>, 2008. However, they will only be exchanged for 1 cent below the original sale price.

After September 1<sup>st</sup>, 2008, the only IRC's that a USPS office will redeem for stamps will be the current ones that expire on December 31<sup>st</sup>, 2009. All other IRC's will be worthless. Current IRC's are redeemable for either 90 cents in stamps — if the IRC is from a non-USPS post office, and not postmarked on the right side; or, one cent below the original sale price — if the IRC is from a USPS post office, and again, not already postmarked on the right side.

More information on USPS handling of IRC's can be found in the bulletin at <http://www.usps.com/cpim/ftp/bulletin/2007/pb22215.pdf> — see pages 28 & 57 for pages related to IRC's. And remember that many USPS counter staff are not familiar with IRC's these days — VA7WEK

**Did you know** that the original Ponzi scheme involved IRC redemption?

F6BEE will be QRV as **6W1RW** starting November 19th. He will be active in the CQ WW DX CW contest. QSL via F6BEE — F6BEE, OPDX

KL2A will be QRV as **9K2HN** during the CQ WW DX CW Contest. QSL via 9K2HN or the bureau — KL2A, OPDX

**BX5AA** will be QRV during the CQ WW DX SSB Contest October 27<sup>th</sup> & 28<sup>th</sup>. QSL this rare prefix via BX5AA — BX5AA, OPDX

CN8NK will be QRV as **CN4P** during the CQ WW DX SSB Contest. QSL via EA5XX — OPDX

## QSL Routes

1A0KM via IK0FTA — NN3W  
3B7SP via SP9SX — K3W1  
3XD2Z via RW3AZ — W7LPF  
4A3IH via IT9EJW — KS7S  
5N9SJA via N0OY — F1JKJ  
5V7SE via IK3GES — F1JKJ  
6W1SE via JR2KDN — W4DN  
7Z1HL via DJ9ZB — W4DN  
8Q7DD via W4WET — W4DN  
9M6BAA via G4SHF — W4DN  
9M6XRO via M5AAV — W2IRT  
A22AA via KY4P — KS7S  
A250OK via M5AAV — NN3W  
BS7H via KU9C — NJ9K  
C56JJ via PA4JJ — PA4JJ  
C6AXD via K3IXD — W2IRT  
C98GLO via CT2GLO — F1JKJ  
C9RJJ via NI5DX — KS7S  
EK3GM via IK2QPR — F1JKJ  
FK8GX via W3HNC — W5TFW

GB4IPY via M0OXO — JJ1BDX/3  
HF0POL via SP3WVL — TA3YJ  
HP2/CX2AM via CX2AM — W3AWU  
OJ0VVR via OH1VR — K1SEZ  
PY0FF via W9VA — KS7S  
R1FJT via UA4RC — F1JKJ  
T30CW via DL7UFR — KS7S  
TY5ZR via IK2IQD — F1JKJ  
UA2FF via LotW — NN3W  
UK8GK via RW6HS — NF4L  
UN7JX via IK2QPR — F1JKJ  
V63JJ via JA3ART — W2IRT  
VK9LT via HB9QR — W4DN  
VP6H via VE3HO — W4DN  
VP8CQS via SP2GOW — NF4L  
VR6BB via JF2KOZ — KS7S  
XU8AYY via DH7WW — NF4L  
XX9TWP via JM1LJS — W4DN  
Y11HXH via IK2IQD — F1JKJ  
ZA1DX via OH2BH — W4DN

Thanks to the NJDXA DX News & DX Chat Reflectors, the DX-QSL Reflector, 425 DX News, OPDX News, Diamond DX Club News, ICPO Bulletin, & ARRL DX Bulletin for our DX News information. Thanks also to Bill Moore NC1L / ARRL DXCC Desk, & Bernie McClenny W3UR / The Daily DX for confirmations & additional information.



## WASH Classifieds

Information shown here is as supplied to the **WASHRag**. 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 **WASHRag** or the **WIRELESS ASSOCIATION OF SOUTH HILLS, INC.**

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## ARRL Continues PAVE PAWS Efforts

ARRL Web Extra & ARRL Letter, courtesy of the American Radio Relay League

Newington, CT, August 31<sup>st</sup>, 2007 — On August 13<sup>th</sup>, the ARRL began sending "specific mitigation reduction numbers" to 122 repeater owners, recommending that they reduce their signal anywhere from 7 dB to 56 dB, according to ARRL Regulatory Information Branch Manager Dan Henderson, N1ND. These reductions, requested by the US Air Force and the Department of Defense, only concern those repeaters identified by the DoD as affecting the PAVE PAWS radar system.

"Some reductions are going to be attainable," Henderson said. "You can do 7 dB, but 54?" He said such a reduction would "not be realistic to achieve. While many of the affected repeater owners may not be able to achieve the required reductions, but that doesn't mean they shouldn't try to meet the goal. Everyone involved needs to continue trying to meet the DoD's requirements. This gives us the best chance to keep as many of these machines as possible on the air."

Henderson stressed that any order to shut down a repeater will come from the Federal Communications Commission, at the request of the DoD. "This situation only affects those repeaters on the DoD's list in Massachusetts and California. It does not affect the everyday, casual user of 70 cm. This is not a wide-spread threat to the 70 cm band."

Citing an increasing number of interference complaints, the US Air Force has asked the FCC to order dozens of repeater systems to either mitigate interference to the PAVE PAWS radars or shut down. The ARRL has been working with the DoD to develop a plan to mitigate alleged interference from 70 cm ham radio repeaters to this military radar system on both coasts. According to the DoD, the in-band interference from Amateur Radio fixed FM voice repeaters has increased to an unacceptable level. PAVE PAWS radars are used for national security functions, including early detection of water-launched missiles. They are critical to our national defense and are in use 24 hours per day, seven days per week.

The Amateur Radio Service is a secondary user in the 420-450 MHz (70 cm) band, both by the Table of Frequency Allocations and the FCC Part 97 regulations. As such, Amateur Radio licensees, jointly and individually, bear the responsibility of mitigating or eliminating any harmful interference to the primary user, which in this case is the Government Radiolocation Service that includes the DoD PAVE PAWS systems.

(1928 Continued from page 12)

You can almost see a tear of nostalgia rolling down Westman's cheek as he hammered out the manuscript on a manual typewriter. The article concludes with instructions for building a "simple, effective and cheap" receiver for the 160 meter band (basically two triodes and a coil).

So, in 1928, it was already becoming fashionable to believe that newcomers have it too easy, and the old-timers were already struggling in vain to re-create the atmosphere of the Golden Age which, from their point of view, had happened a mere ten to fifteen years earlier.

The more things change, the more they stay the same.

### Grown Man Continued from Page 8

cable was an extension cable for the mike. Still a crappy design. If I want to have a remote install, I would now have two cables coming from the transceiver...one for the remote head, and one for the microphone...instead of one cable between the transceiver and the remote head and a shorter cable from the remote to the mike. Well if that is the way those #-\*#&# guys designed it, it will not get the best of me. I am better than any radio...soooo.

I uninstalled the transceiver from the console and took that front seat out a third time and reinstalled the transceiver under it...reference the above paragraph about the difficulty of taking the seat out, installing the transceiver and reinstalling the seat. Finally everything was all installed, tested and works like a charm. I am very pleased with the radio and begin putting all the tools up and throwing away all the plastic bags and boxes, etc.

I got all the tools put up, got all the trash picked up and put in trash cans except one final box...the big box that the radio came in. When I picked it up, there, underneath, was the instruction pamphlet for the "install of your new remote head and microphone". I threw it on the ground and stomped it till my feet hurt.

I am a grown man and don't need instructions.

Has Roadway found the tower yet?



# 2007 AMSAT Space Symposium

October 26<sup>th</sup> — 28<sup>th</sup>, 2007

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### Preliminary Agenda

Thursday, October 25<sup>th</sup> through Friday noon, October 26<sup>th</sup>, 2007

- BOD meeting

Friday, October 26<sup>th</sup>, 2007

- Symposium First Session, 1:00 to 5:00 PM
- Annual meeting, 5:00 to 6:00 PM
- Introduction to Amateur Satellites by Gould Smith, 7:30 — 9:00 PM

Saturday, October 27<sup>th</sup>, 2007

- Symposium Second Session, 8:00 AM to 12:00 Noon
- Symposium Third Session, 1:30 PM to 5:00 PM
- Cocktails & Hors Dourves, 6:30 PM to 7:30 PM
- Banquet (Keynote Speaker Mr. Sy Liebergot); 7:30 PM until ?

Sunday, October 28<sup>th</sup>, 2007

- Area Coordinators meeting; 8:00 AM - 9:00 AM
- Tour (details to be announced); 9:00 AM to ?

### Who is AMSAT?

- AMSAT is a non-profit volunteer organization which designs, builds and operates experimental satellites and promotes space education.
- We work in partnership with government, industry, educational institutions and fellow amateur radio societies.
- We encourage technical and scientific innovation, and promote the training and development of skilled satellite and ground system designers and operators.
- Our Vision is to deploy high earth orbit satellite systems that offer daily coverage by 2009 and continuous coverage by 2012.
- AMSAT will continue active participation in human space missions and support a stream of LEO satellites developed in cooperation with the educational community and other amateur satellite groups.

### About our Keynote Speaker

**Sy Liebergot, Apollo Electrical, Environmental, Consumables Flight Controller**

Sy Liebergot was the Apollo EECOM and part of the team that guided Apollo 13 back to Earth following the explosion which crippled the spacecraft. Author of "Apollo EECOM: Journey Of A Lifetime"

Web site: <http://www.apolloeecom.com/>



**Sy Liebergot:** Flight... I

recommend we shut down reactant valves to the fuel cells.

**Gene Kranz:** What the hell good is that gonna do?

**Sy Liebergot:** If that's where the leak is, we can isolate it. We can save what's left in the tanks and we can run on the good cell.

**Gene Kranz:** You close 'em, you can't open 'em again! You can't land on the moon with one healthy fuel cell!

**Sy Liebergot:** Gene, the Odyssey is \*dying\*. From my chair here, this is the last option.

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Dues subject to change without notice

# Inside This Issue:

- AMSAT Symposium News! T-3!
- Antenna Tips! Tower Tips!
- Broadcasters Kvetch at the FCC!
- A Ham's Antenna Contentional Use Permits are revoked in California!

**All this & much more... waiting for you right inside... these pages!!**



## **Quarter Million Watts QRO!**

I thought the readers of the [WASHRag](#) might be interested in seeing what a quarter million watt transmitter looks like!

This one is installed at WLFL Television in Raleigh, NC. It feeds a high gain UHF antenna on a 2000 foot tower. The configuration develops 5 million watts effective radiated power!

Photo courtesy of and ©Copyright 2007 Jack Layton W9UK

## The *WASHRag*

Wireless Association of South Hills, Inc.  
Ron Notarius W3WN, Editor  
3395 Rosewood Drive  
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