

POPULAR COMMUNICATIONS

APRIL 2012

Shortwave Listening • Scanning • AM & FM • Radio History

What Happens in Vegas . . .

Gordo Storms the 2012 Consumer Electronics Show, p. 12

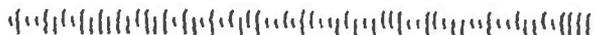
PLUS:

- 100 Years Later: Titanic's Heroic Radiomen, p. 22
- In Review: AOR's ARL 2300 LAN Interface, p. 44



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POPULAR COMMUNICATIONS CONTENTS

APRIL 2012
VOLUME 30, NUMBER 8

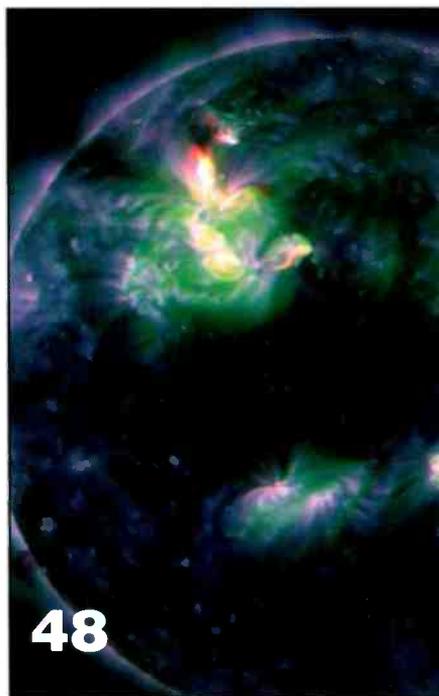
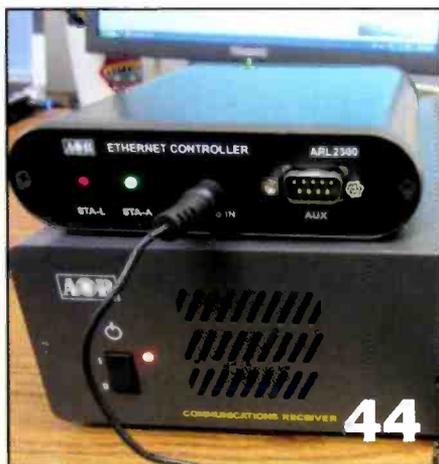


FEATURES

- 12 **Making Radio Waves in 'Sin City'**
by Gordon West, WB6NOA/WPC6NOA
- 22 **CQD, SOS Titanic — The Brave Radiomen Who Gave It Their All**
by R.B. Sturtevant, KPC7RBS/AD7IL

FEATURED COLUMNS

- 30 **Monitoring Stations**
You Tell Us: Monitoring Magic Is Alive and Well
by Richard Fisher, KPC6PC/KI6SN
- 36 **Monitor of the Month**
VEPC1CQ, Mineville, Nova Scotia, Canada
by Murray Lycan, VEPC1CQ
- 44 **Product Review**
In Review: The AOR ARL 2300 LAN Interface
by Ken Reiss, WPCØKR
- 56 **Broadcast Technology**
Covering the Media Coverage
by Bruce A. Conti, WPC1CAT
- 73 **Shannon's Broadcast Classics**
Fool's Gold³, Radio and TV Style
by Shannon Huntwell, WPC2HUN



ON THE COVER

Pop'Comm's Gordon West, WPC6NOA/WB6NOA, up to his elbows in wireless, logged a whole lot of miles at the 2012 Consumer Electronics Show in January. What happens in Vegas doesn't stay in Vegas — not this time! Check out Gordo's rundown on everything from the latest innovations in scanners and short-wave radios to station accessories that deserve the communication's community's attention. Page 12

COLUMNS

- 11 **Horizons**
Better Late: 2012 Communications Predictions
by Rob de Santos, K8RKD
- 41 **Power Up**
New, Interesting and Useful Communications Products
by Jason Feldman, WPC2COD
- 42 **World Band Tuning Tips**
World News, Commentary, Music, Sports, And Drama At Your Fingertips
- 48 **The Propagation Corner**
Deep in the Heart of Spring DX Season
by Tomas Hood, NW7US, WPC7USA
- 62 **Global Information Guide**
Let's Keep An Ear to North Korea — Libya, too
by Gerry L. Dexter, WPC9GLD
- 70 **Ham Discoveries**
OK, Everyone — Let's Take It Outside!
by Kirk Kleinschmidt, NTØZ/KPCØZZ
- 78 **The Wireless Connection**
Radio Rescue: A Million 'Final Touches'
by Manfred Mornhinweg
- 84 **The Loose Connection**
A Fine Line . . . A Very Fine Line
by Bill Price, N3AVY

DEPARTMENTS

- 4 **Tuning In**
An Editorial
- 6 **Newsworthy**
Unwired, InfoCentral, And Washington Beat
- 35 **Reader Survey**
- 69 **Radio Fun**
- 77 **Spurious Signals**

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EDITORIAL

Tuning In

by Richard Fisher, KPC6PC/KI6SN
<editor@popular-communications.com>

We Want You¹: Take the Bates-Pop'Comm Reader Survey

As you know, *Pop'Comm* takes reader feedback *very seriously*, and this month we have called upon one of the leading figures in shortwave radio consultation to assist with April's Reader Survey, appearing both in our print and digital editions.

Urban Bates, YJPC1UB, whose shortwave listening post is on the South Seas island of Vanuatu — formerly New Hebrides — has compiled this month's questions. He draws on more than 80 years of shortwave listening from there, **Figure 1**.

The son of missionaries, at age 9, Urban was given one of the first National SW-3 regenerative shortwave receivers. "It was 1931," he recalled. "My mom said if I tuned it just right, I could hear the ocean — just like listening to a seashell. She was right. Wow!"

(**WATCH**: A National SW-3 in action, <<http://bit.ly/yzqzgy>>. — Ed.)

During a visit from his Uncle Norman in 1940, Bates was introduced to *the antenna*. Urban says he uses his SW-3 and long-wire aerial every day, and though he occasionally hears people speaking, he's "never tired of listening to the ocean."

Please take a moment to fill out April's *Pop'Comm-Bates Reader Survey* card elsewhere in this edition or online at: <<http://svy.mk/A9GCMS>>.

In all candor, you may feel foolish if you don't.



Figure 1.

We Want You²: The Pop'Comm-WRO Online Chat, April 15

This month's *Pop'Comm-WRO Live Online Chat* could be dubbed the *Income Tax Day Eve Edition*, but why ruin the moment?

Pop'Comm has invited *WorldRadio Online* readers to join us at 8 p.m. Eastern time Sunday, April 15 (0100 UTC Monday) on the *WorldRadio Online Blog* for conversation about *everything communication*.

To take part, at chat time visit <<http://www.WorldRadioOnline.blogspot.com>> and click on the *Cover It Live* box appearing on the page. You'll be linked to the chat-spheric action.

If you'd like to see texts of previous sessions, you're welcome to do so by pressing **REPLAY** in the chat boxes on the blog for previous months. You can sign up for an email reminder of April 15's chat, as well, so you won't miss the fun.

We sure hope to see you there. No need to bring your federal income tax return, by the way.

We Want You³: 600+ Have Signed Up As Pop'Comm Monitors! Have You?

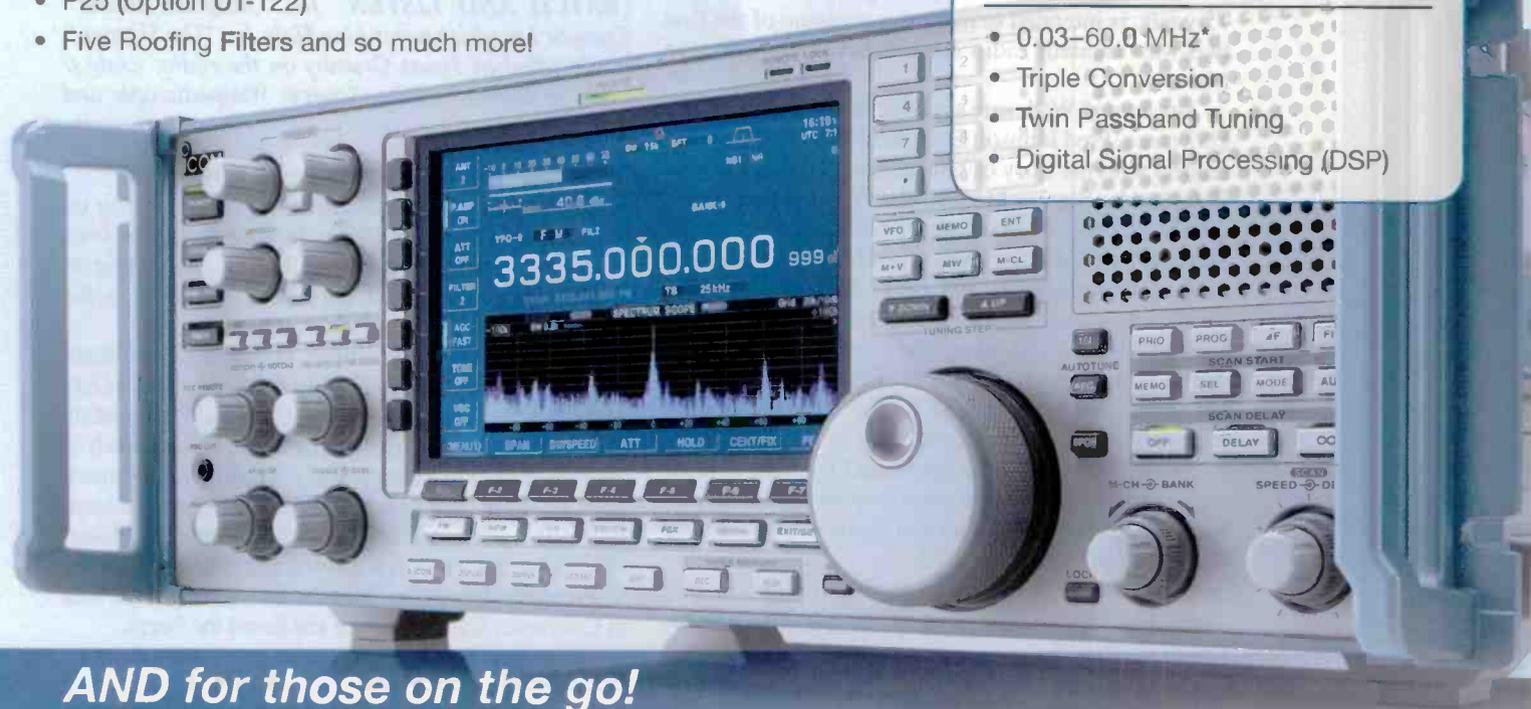
Since the *Pop'Comm Monitoring Station* program launched on New Year's Day, more than 600 station identification signs and Certificates of Registration have

(Continued on page 83)

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ICOM

The Weirder Side of Wireless

by Staff

This Cup Runneth Nowhere

In an item about Amateur Radio on the International Space Station (ARISS), the American Radio Relay League's *ARRL Letter* reminded readers eight years ago this month:

"The Elser-Mathes Cup, sitting idle for more than 75 years, is intended to mark the occasion of the first two-way amateur radio contact between Earth and Mars."

Say again? Well, sure enough, in a November 1969 *QST* piece, Fred Johnson Elser, W6FB/W7OX, regaled readers with the story of how he and Navy Lieutenant Commander Stanley Mathes, K1CY, came up with the idea of a trophy awarded for the first amateur communication "with Maxim's *pet planet*, Mars." (*That would be League founder Hiram Percy Maxim, W1AW — apparently a huge fun of the Red Planet. — Ed.*)

Maxim liked the idea, and "the trophy reached ARRL Headquarters in 1929," Elser wrote. "It now has a prominent spot in the ARRL Museum," on view to thousands of visitors a year.

"The Moon has been broached by Man," Elser wrote in 1969. "With one more leap for mankind, perhaps the Elser-Mathes Cup can be awarded — I hope it is in my lifetime."

Sadly, Mr. Elser became a "Silent Key" in July 1988. The cup has now been sitting idle for 83 years. (*Source: ARRL*)

What's In a Name? Gilligan Knows . . .

The captain of the *S.S. Minnow*, the ill-fated sight-seeing boat that ran aground to set the stage for the classic TV series "Gilligan's Island," was identified by name only twice in the series' 98 episodes — first in a radio broadcast about the missing castaways.



Photo A. The cast of "Gilligan's Island" gathers around a transistor radio in Episode 1 of the classic TV series to hear a news broadcast identifying each of the castaways by first and last name — one of only two times in the series' history that the Skipper (actor Alan Hale, Jr.) is identified as Jonas Grumby. (*WATCH: As the passengers and crew of the S.S. Minnow listen to their tale as told in a radio newscast, <http://bit.ly/yFiLQw>.*) (YouTube screen grab)

In the first episode, titled "Two on a Raft," Skipper Jonas Grumby is identified in a news report the characters hear via portable radio on the beach, **Photo A**. The only other mention of Jonas Grumby is in a subsequent episode where the Skipper is blamed for the Minnow's disappearance by a Maritime Review Board. (*WATCH AND LISTEN: To "Gilligan's Island" Episode 1 in which actor Alan Hale Jr., "The Skipper," is identified as Jonas Grumby on the radio, <http://bit.ly/yFiLQw>.* — Ed.) (*Source: Wikipedia.com and YouTube*)

'Luuuuuu Seeeeeeeeeeeeeeeee'

The most famous example of a person picking up radio signals through fillings in their teeth involved the late TV comedienne Lucille Ball, according to HealthyHearing.com. It happened 1942, *or so the story goes*.

"Lucy had several fillings installed in her teeth around the time she was filming *Du Barry Was a Lady* with Red Skelton and Gene Kelly," the Web posting said. Driving home from MGM to the Desilu ranch in the San Fernando Valley, "Lucy received radio broadcasts of music through her fillings." Sometime later, Ball took a different route home. "This time her fillings vibrated with short beeps that sounded like Morse code. She reported this to the FBI who then searched the area in Coldwater Canyon where she heard the beeps."

As legend has it, "FBI agents eventually found a radio transmitter hidden in a tool shed that was used by a Japanese gardener. Later it was determined that the gardener was a member of a spy ring operating on the west coast," as revealed in Warren G. Harris' "*Lucy and Desi: The Legendary Love Story of Television's Most Famous Couple*," which HealthyHearing.com cites as its source. (*Source: HealthyHearing.com, <http://bit.ly/yUOg2F>*)

'The Other' Nikola Tesla

For all the great things self-described "Great Inventor" Nikola Tesla did — *you know, the induction motor; AC power transmission, Tesla Coil, and all* — the man had what *About.com* tactfully describes as *Some Bizarre Behaviors*:

- Columbiphilia (pigeon-love)
- Kakiphobia (fear of dirt)
- Scotophilia (love of the dark)
- Pathophobia (fear of germs)
- Spherophobia (fear of round objects)
- Triphilia (obsession with the number 3)
- Visual and auditory hallucinations

"In one of Tesla's labs was a vibrating platform which Tesla discovered had a strange laxative effect," *About.com's* Tesla profile revealed. "When his friend, Mark Twain, stayed on the platform too long, Tesla had to rush him to the restroom." (*Source: About.com, <http://bit.ly/wjpKPM>*)

News, Trends, And Short Takes

By Staff

HCJB, Quito Celebrates 80 Years of Service

Since its first 200-watt broadcast on December 31, 1931, HCJB, Quito, Ecuador, **Photo A**, has grown its worldwide outreach with broadcasts via shortwave, satellite radio and the Internet, officials noted in commemoration of its 80th year of service.

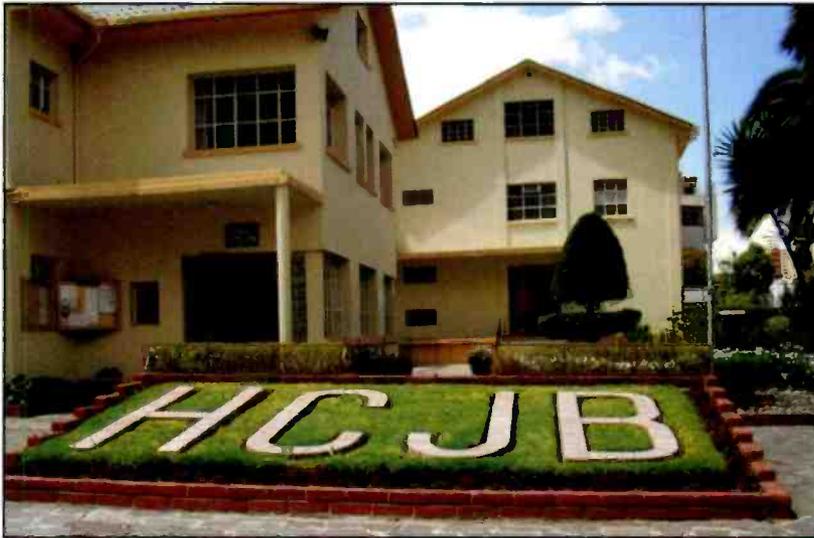


Photo A. This 2007 picture of HCJB is no doubt a far cry from how things appeared 80 years ago when the missionary station went on the air for the first time from Quito, Ecuador — running 200 watts. (Courtesy of Mschaa via Wikimedia Commons)

According to a story in *Christian Today-Australia*, the pioneer missionary broadcaster today airs programming “in more than 120 languages and dialects” as HCJB Global.

“Now we’re using new media to reach the next generation with the gospel.” HCJB Global President Wayne Pederson said. “More and more doors are opening, even in ‘closed’ countries. We just pray we’ll be nimble enough to go through those doors when they open.” (Source: *Christian Today-Australia*, <<http://bit.ly/x0sPL4>>.)

Radio Bulgaria Ends Shortwave Broadcasts

“After more than 75 years in world broadcasting, as of January 31, 2012 at 2200 UTC, Radio Bulgaria ceased broadcasting on short and medium waves,” Frequency Manager Ivan Ivanov said in a letter, adding that it was “with huge regret I inform you of the very bad news.”

The reason? No money for broadcasts on short and medium waves, Ivanov wrote. “And who listens to shortwaves today? There is the Internet. Maintaining the shortwaves was *Mission Impossible!*”

He added that as “a fre-

quency manager in the last 19 years my main task was to provide the best quality signal for Radio Bulgaria in worldwide coverage. There will be no shortwaves, there will be no frequency manager. For all people who work at Radio Bulgaria, the bad news (comes with) shock and horror. It’s the beginning of the end.” (Source: *Cumbre DX* <<http://yhoo.it/x2YQGJ>>, other reports)

Sun Unleashes Strongest Solar Flare in Six Years

A massive solar flare — the largest recorded since 2005 — sent a wave of radiation toward Earth in January, prompting experts to keep an eye on satellites, astronauts aboard the International Space Station, polar-traveling aircraft, and high-frequency and VHF/UHF communications.

The solar flare occurred at about 0400 UTC, Monday, January 23, and hit Earth “with three different effects at three different times,” according to the National Oceanic and Atmospheric Administration’s Space Weather Prediction Center in Colorado. “The biggest issue is radiation.”

According to Space Weather Center physicist Doug Biesecker, the flare was considered strong, but other storms have been worse. “There are two higher levels of radiation on NOAA’s storm scale — severe and extreme. Still, this storm is the strongest for radiation since May 2005,” he told the Associated Press. “The whole volume of space between here and Jupiter is just filled with protons.” (WATCH: Video of the January 23 solar activity, <<http://bit.ly/wng4zH>>. — Ed.)

A solar eruption is followed by a one-two-three sequence, Antti Pulkkinen, a physicist at NASA’s Goddard Space Flight Center in Maryland and Catholic University, told the AP.

First is electromagnetic radiation, followed by proton radiation. Last, the coronal mass ejection (CME) — plasma from the sun — strikes Earth. The CME moves at 1 or 2 million miles per hour, but this storm was “particularly speedy and (was) shooting out at 4 million miles per hour,” Biesecker said. (Source: *Associated Press*, published reports)

Renowned Broadcaster Offers CD Series Via Download

Former host of Radio Canada International’s English Language Service and CBC broadcaster Ian McFarland has made available for download his shortwave CD series, which includes interval signals, foreign language recognition, shortwave history, the state of international broadcasting, a series on antennas, and more.

An international broadcast consultant, McFarland worked for the BBC in London and NHK Tokyo, and is a visitor at radio conventions in the United States and Canada.

McFarland says proceeds from CD series sales will benefit a food bank and soup kitchen in Duncan, British Columbia — his favorite charity. He now lives in Maple Bay, BC.

For details and information on how to order, visit the DX.ca website: <<http://dxer.ca/cd-store>>. (Source: *DX.ca*)



For ALL your monitoring needs,



AR2300 "Black Box" Professional Grade Communications Receiver

First in a new generation of software-controlled black box receivers, the AR2300 covers 40 kHz to 3.15 GHz* and monitors up to 3 channels simultaneously. Remote control functions. Internal SD audio recorder allows for unattended long term monitoring. Spectrum recording with optional AR-IQ software can be used for laboratory signal analysis. Using FFT the unit scans large frequency segments quickly and accurately. Optional IP control card.

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With amazing performance in terms of accuracy, sensitivity and speed, the AR5001D features ultra-wide frequency coverage from 40 kHz to 3.15 GHz* in 1 Hz steps with 1ppm accuracy and no interruptions. Large easy-to-read digital spectrum display and popular analog signal meter. The AR5001D makes it easy to monitor up to 3 channels simultaneously. Can also be controlled through a PC running Windows XP or higher. Great as a mobile or desktop receiver.



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Welcome to a new class of professional monitoring receivers. The AR-Alpha can perform unattended datalogging for extended periods and covers 10 kHz to 3.3 GHz* continuous, with no interruptions. It boasts a 6-inch color TFT monitor that displays spectrum bandwidth, a switchable time-lapse "waterfall" display or live video in NTSC or PAL. Five VFOs, 2000 alphanumeric memories that can be computer programmed as 40 banks of 50 channels, 4 search banks, a "select memory" bank of 100 frequencies and a priority channel. Also includes APCO-25 digital capability and can record up to 52 minutes of audio.

AR-One Communications Receiver

Enjoy total command of frequencies, modes and tuning steps with this versatile performer that allows you to control up to 99 units with a single PC. Covers 10 kHz to 3.3 GHz and delivers excellent sensitivity, ultra-stable reference frequency oscillator, high intercept, adjustable BFO and multi-IF signal output (10.7 MHz or 455kHz) plus 1000 memory channels and 10 VFOs.



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AR8200 Mark III World Class Portable Receiver

With 1,000 alphanumeric memories and a TCXO that delivers solid frequency stability and performance not found in most desktop units, the AR8200 Mark III covers 500 kHz to 3GHz* and can be used with optional internal slot cards that expand its capabilities. It features true carrier reinsertion in JSB and LSB modes and includes a 3kHz SSB filter. The data port can be used for computer control, memory configuration and transfer, cloning or tape recording output. A special government version, AR8200C Mark III R, features user-selectable infra-red illumination of the display and operating keys.

AR8600 Mark II Wide-Range Desktop Receiver

With an optional P25 (APCO25) decoder module, improved front end and receive audio response, display illumination control, ultra-stable TCXO and up to four optional cards that can enhance certain functions, the AR8600 Mark II covers 100kHz to 3GHz* with 1000 alphanumeric memories and free downloadable control software. Receives WFM, NFM, Super-narrow FM, Wide and Narrow AM, USB, LSB and CW.



AR-STV Handheld Video Receiver

See who is watching you on wireless video surveillance cameras. The AR-STV handheld receiver detects hidden NTSC or PAL analog video signals in real time. A valuable addition to any security operation, the AR-STV features a large 2.5 inch color LCD display and a USB connector that makes it easy to download stored images into a computer. With optional 4GB SD memory card, up to nearly 2000 images can be stored for later analysis.

SR2000A Spectrum Display Monitor

Ultra sensitive, incredibly fast, yet easy to use, the SR2000A lets you SEE received signals in FULL color. Using the power of FFT, it covers 25 MHz to 3GHz* and features a color monitor that displays spectrum bandwidth, a switchable time-lapse "waterfall" display or live video in NTSC or PAL. High quality internal speaker delivers crisp, clean audio signals. Scans 10 MHz in as little as 0.2 seconds. Instantly detects, captures and displays transmitted signals. PC control through RS232C serial port or USB interface. With 12 VDC input, it's perfect for base, mobile or field use.



Whatever the monitoring need, AOR products deliver exceptional performance for use by federal, state and local law enforcement agencies, the military, emergency managers, diplomatic service, news-gathering operations, and home monitoring enthusiasts.

Capitol Hill And FCC Actions Affecting Communications

by Richard Fisher,
KPC6PC/KI6SN

Florida Man Fined \$10,000 for Illegal FM Broadcast

A Florida man has been fined \$10,000 by the Federal Communications Commission for allegedly operating an unlicensed radio station on 98.7 MHz in Miami.

Miami FCC Enforcement Bureau agents traced the unauthorized signal to an FM transmitting antenna mounted in a tree. The station was also transmitting an RDS display of "98.7 FM Energy," according to the commission. The FCC was following up on a complaint made in July 2011. (*IN DEPTH: What is an RDS display?* <<http://bit.ly/ybkMUu>>. – Ed)

The agents also found an Internet website for the station, <<http://www.energyfm987.com>> which listed "DJ Oneway" as a host of Energy FM and a phone number. The website was registered to Robenson Thermitus.

Agents saw a coaxial cable from the antenna leading to the back of a residence. The homeowner told the agents a man known as "Oneway" installed the equipment, located in a locked room in her home. The homeowner called the man and then handed the phone to the agents.

The man told agents on the phone he would turn off the station, but didn't admit he was the operator or unauthorized station owner. During the call, the agents saw the phone number, which matched a business owned by "DJ Oneway," according to the Florida Department of Motor Vehicles. After the agents left, the broadcast continued.

The agents again traced the illegal transmissions to the same home. The FCC confirmed that DJ Oneway is Thermitus and determined that he had control over the station.

Thermitus has 30 days to appeal, or pay the fine. The broadcast continues to be streamed online. (*Source: RadioWorld* <<http://www.rwonline.com/>>, FCC)

One Tower + Reduced Power = Fine, Kind of Dour

A Mount Pocono, Pennsylvania AM station is facing a proposed \$17,000 FCC fine for operating with only one of its four directional antennas and at reduced power — without approval.

During a March 2010 inspection of its Stroudsburg main studio, WPLY's engineer told field agents the station was running 250 watts of its authorized 1,000-watt daytime power, according to the FCC. (*DETAILS: See WPLY-AM's status*, <<http://bit.ly/zdnST9>>. – Ed.)

"Crown Castle, which maintains WPLY's towers, confirmed to the Commission that the station had been operating with only one of its four towers for eight years, when Nassau (Broadcasting) purchased the station," a report on *RadioWorld.com* noted. "The engineer and sales manager also told the FCC that (station owner Nassau Broadcasting) had never maintained a public file for WPLY at the main studio, according to the commission's account."

The station was given 30 days to appeal the FCC ruling. (*Source: RadioWorld.com*, <<http://bit.ly/zgglls>>)

Clear Channel in FCC Doghouse Over Web Contest

Clear Channel Communications has been fined \$22,000 by the FCC for failing to adequately disclose the terms of an online contest that invited users to create video ads promoting Chevrolet, according to a Web posting on *Online Media Daily*, <<http://bit.ly/x128ZN>>. (*IN DEPTH: Read the FCC finding*, <<http://bit.ly/wNEIE2>>. – Ed.)

"The decision, issued in January by the Enforcement Bureau, stemmed from a 2008 Clear Channel contest that promised a Chevy to the user who designed the best ad for the car," *Online Media Daily* reported. "The official contest rules, which were posted online, said that the contest ran from Feb. 11, 2008 to March 21 2008, but also said that judges would select finalists on March 10, according to the ruling. That discrepancy 'may have confused listeners and contest participants,' the FCC Enforcement Bureau said in its ruling."

Named in the complaint were Los Angeles Clear Channel stations KOST, KHHT, KBIG, KYSR, and KIIS — all on FM — and KFI-AM.

"The FCC also faulted Clear Channel for promoting the contest on-air, but only disclosing the terms online," the Web report noted. "Licensees cannot avail themselves of alternative non-broadcast announcements to satisfy the requirement that they accurately announce a contest's material terms," the FCC wrote.

"Clear Channel argued the FCC's rules about contests don't apply because the contest was conducted online, and not over-the-air," *Online Media Day* reported. "But the FCC said in its ruling that Clear Channel promoted the contest on the radio, which subjected it to the FCC's jurisdiction." (*Source: Online Media Daily, FCC*)

FCC Calls for Comment on Sports Event Blackouts

The FCC in January put out a call for public comment on a Petition of Rulemaking filed by five sports fan groups that are calling for elimination of the four-decade-old broadcast blackout rule. (*IN DEPTH: Read the petition*, <<http://bit.ly/zCQ4Ct>>. – Ed.)

"In essence, the FCC is opening up a conversation" about the rules, according to a *Huffington Post* report. The period for comment closed February 13. The invitation was considered by media observers a major Commission action.

The petition was filed jointly by five public interest groups: Sports Fans Coalition, Inc.; Public Knowledge; Media Access Project; National Consumers League; and League of Fans.

Blackout rules, which vary from sport to sport, have been on the books since the 1970s. (*Sources: FCC, Huffington Post*, <<http://huff.to/z7F29x>>)

Better Late: 2012 Communications Predictions

by Rob de Santos, K8RKD
<commhorizons@gmail.com>
Twitter: @shuttleman58

“Among many things: The days of the text-based news story or press release are numbered. 3D-TV is going to continue to mature . . .”

We're well into another year. And while mostly everyone made their 2012 predictions months ago, *you'll have to pardon me*: I spent some additional time thinking about mine.

There were two reasons: I didn't want to list some quick and easy *trends* that will seem silly in 2013. I wanted to consider them in light of the subjects I've written about in the past year. After all, if the “communication horizons” you read here in November aren't still relevant in March, then I took a very short viewpoint.

Here are a few ideas, not all of them new, to think about.

Three-Dimensional Reality, Naturally

We live in a 3D world. The most natural way to view the world is in 3D and in motion. That means video. I think we will see the continued rise of video over the next few years, particularly as the preferred means to spread news or announce products.

The days of the text-based news story or press release are numbered. 3D-TV is going to continue to mature. We're still five to 10 years away from 3D-TV becoming the mainstream technology — if it ever does.

Technology On the Move

We are also bodies in motion. It's increasingly a mobile world. That suggests to me that mobile devices will become more central to our communications life. If it's possible to be even more dependent on our mobile phones, we will.

It's difficult to say how much smaller they will go, though. As noted, our dependence on video also demands bigger devices for better resolution.

Whither the Printed Page?

Several experts in the field of communications have been predicting the demise of the local newspaper for some time now. Not without justification, since many cities are already without a daily newspaper.

Those that survive, at least in the next few years, will find a bridge between the paper world and the electronic world and a way to make it pay. Magazines are changing, too, but many are already moving to electronic distribution. Which begs the question: Have you checked out *Popular Communications'* digital edition? *You should!* <<http://www.popular-communications.com/>>.

News: Less Appears to Trump More

My “*Inverse Law of the Internet*”: The shorter the message, the more it is read and distributed.

We see this in news reporting already, where it's more headline than substance. The long form article is

becoming a rarity. Twitter and Facebook dominate. Eight seconds of news now stands in for a news story. Of course, what is lost is context.

I don't think we've reached the limit though. The human mind is capable of still more and I don't see the stopping point just yet.

The Sun's Impact On Us All

Sunspots and solar activity will improve but the peak is going to be fairly low and short by all indications. Does this herald a longer trend? I imagine we won't know that for another cycle and a half — at least.

Back in November 2009, I wrote in this space about what this might mean: The impact on weather, the communications hobby, satellite lifetimes, and propagation will be significant.

Other Musings . . .

Digital modes are growing up. All across the spectrum, they are starting to become more than just a curiosity. This year will see the introduction of a second and competing digital technology to D-STAR for hams.

HD TV has become the standard and the end of analog cable is very close.

HD radio is finally getting close to critical mass as 12 million HD radios have been sold and the listener numbers are becoming significant.

DRM may finally have a foothold but not in international shortwave broadcasting, but as a domestic radio technology for India and other countries not inclined to pay the costs associated with HD Radio.

Boundaries in speech will continue to be scrutinized and subject to change. (**BACKGROUND:** *The U.S. Supreme Court is considering obscenity standards and Fifth Amendment issues in two related cases: FCC v. Fox Television Stations Inc. and FCC v. ABC Inc. A decision is expected by June.* — Ed.)

Boundaries on the Internet: How much should the Web be regulated by governments? Where should we draw the line in self-regulation of our daily speech? What is rude and what is not?

The radio industry is finally beginning to accept the Internet as a standard method of distribution. The major broadcasters are now placing value on Internet streams and doing more than simply relaying their broadcast feed. While purists (both broadcasters and listeners) will tell you that *if it doesn't travel by electromagnetic waves it isn't radio*, the public sees it otherwise and the public will win on this one.

What Do You Think?

These are just a few of the communications horizons out there. I'm always open to your feedback, be it short or long. (A quick calculation suggests I can send you this column in only 28 tweets!)

More on the future of communications next month.

Making Radio Waves in 'Sin City'

Pop'Comm's Gordon West, WPC6NOA/WB6NOA, spent four days scoping out the massive 2012 Consumer Electronics Show in Las Vegas. What happens in 'Vegas doesn't always stay in 'Vegas. Here is what Gordo discovered . . .

By Gordon West, WB6NOA/WPC6NOA

Every January the Consumer Electronics Association (CEA) pulls off the CES — the Consumer Electronics Show — a trade-only event held in Las Vegas. It's the launch pad for the latest consumer electronic innovations.

The consumer electronics industry grew by more than 5.6 percent in 2011. That translates to \$190.4 billion in consumer electronic shipments, with another 3.4 percent growth projected for 2012, to \$197 billion. *That's no chump change.*

Trending up along with the dollar figures is the steady growth of attendance at the four-day CES, held at the Las Vegas Convention Center and other venues. We've got Photos A to Z to help capture some of the flavor of the 2012 show.

This year there were 3,000 individual exhibits and trade attendees were expected to top 150,000. Radios and dealers were everywhere! **Photo A.**

With almost 2 million square feet of exhibitor space, we found most of the personal radio manufacturers in the Central and South halls during the January 10-13 exhibition — *thankfully, Photo B.*

Being a gadget freak, though, and wanting to see the latest in TV-3D technology, I just had to walk the entire show!

First, a Word from the FCC

For each of the last three years, Federal Communications Commission Chairman Julius Genachowski has set the radio pace with an hour-long pep talk. This year's focused on the need for more spectrum, with repeated comments — all positive — to the industry for effective broadband digital techniques.

"If you shut off the Internet, virtually nothing on the CES floor could work," Genachowski said, underscoring how small copper wires have been replaced by RF broadband.



Photo A. Some of the the top companies in consumer communications were at the 2012 CES. From left in the front row are Paul Opitz of Uniden®; Matt Haefner of Dakota Alert®, Bob Crane of C.Crane Co.®, and Wayne Wilson of GRE America Inc.® Two more members of the C.Crane Team are in the back row. (Photography by Julian Frost, K3JL)

The FCC now has authority to operate "incentive auctions" and any underutilized spectrum allocation, plus any white spaces between allocations, may quickly get FCC attention.

For us hobby radio users, our frequency bands below 1.2 GHz are not under much scrutiny, but the microwave bands are being closely watched.

Self-Programming Scanners

GRE® America was in full swing and full uniform in the South Hall, led by Wayne Wilson, WR5S, **Photo C** — the main man for the GRE multiple-unit scanner line, <<http://www.GREAmerica.com>>.

He was all smiles with the one-year success of the GRE® PSR-800 EZ Scan Digital P25 Scanner — the nearly self-pro-



Photo B. There were 3,000 individual exhibits at the Las Vegas 2012 Consumer Electronics Show in January, and trade attendees were estimated to have topped 150,000.

grammable, HT-sized trunking receiver, **Photo D**, <<http://bit.ly/yr0uZ7>>.

Sitting right next to it — and bringing even more smiles — was the new **PSR-900**, the mobile version with a slick remote head, **Photo E**. What makes the PSR-800 and PSR-900 so special is that all the user needs to know is his or her city and state, or a ZIP code for the scanner to almost instantly program the area's hot public safety calls and other radio calls to monitor.

Further, if you're on a cross-country train ride and have no idea where you are, launch the scanner into a "find myself" mode, where it analyzes local analog and digital signals and then loads up the local area identified by its unique frequencies.

The PSR-800 and 900 include a 2GB SD (secure digital) card covering the United States and Canada, with plenty of room to spare for adding channels that might not have been previously pre-programmed.

Their digital interoperability covers P-25 (Project 25) Motorola, EDACS (Enhanced Digital Access Communications System) and LTR® (land mobile trunked system), including multi-system analog trunking, weather alert and a spectrum sweeper to rapidly home-in on nearby analog or digital signals. Best of all, the user just pops in a ZIP code or city, and the scanner does the rest! For a full rundown on GRE America products, visit: <<http://www.GREAmerica.com>>.

A couple of booths away, the cell

phone rings and its Paul Opitz, N5TPQ, Product Manager for Uniden®, **Photo F**. He invited me to the Uniden suite at the Hilton to see the latest advances in the **Uniden HOMEPATROL-1** self-programming scanner, <<http://bit.ly/wOjw76>>, **Photo G**.

It includes a 2G micro SD card, and is pre-programmed with all-known U.S.

and Canadian systems. Both Uniden and GRE stay fresh with programming via the Radio Reference database, <<http://www.radioreference.com/>>.

With the added *Where am I?* feature is the HOMEPATROL-1's ability to add the \$100 auxiliary GPS Smart Antenna system that pumps in NMEA 0183 data — a protocol for marine radios to communi-



Photo C. Wayne Wilson, WR5S, of GRE America® holds the PSR-800 EZ Scan Digital P25 Scanner, left, and its mobile-version cousin, the PSR-900.

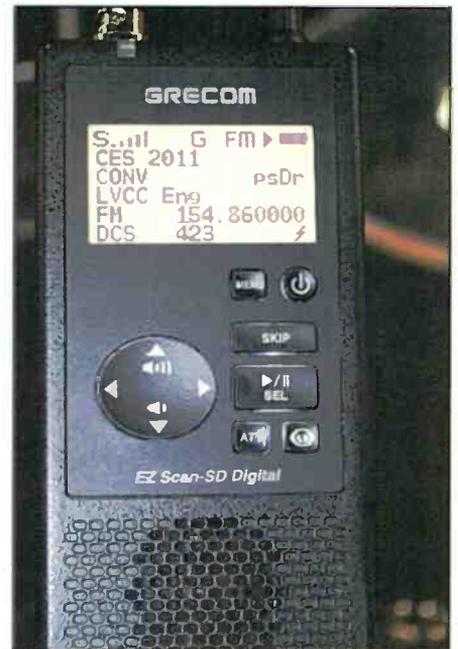


Photo D. The GRE® PSR-800 EZ Scan Digital P25 Scanner is an HT-sized trunking receiver that is "nearly self-programmable."



Photo E. The new GRE® PSR-900 is the mobile version of the PSR-800, but “with a slick remote head,” writes Gordon West, WPC6NOA.

cate with other systems — for the scanner to recognize where on upper North American soil you may be, and pre-load all those neat frequencies.

The HOMEPATROL-1 is a larger unit than the hip-pocket-sized GRE, but it offers a 3.5-inch color touch screen for rapid selection of your choice of information for that day in your particular area.

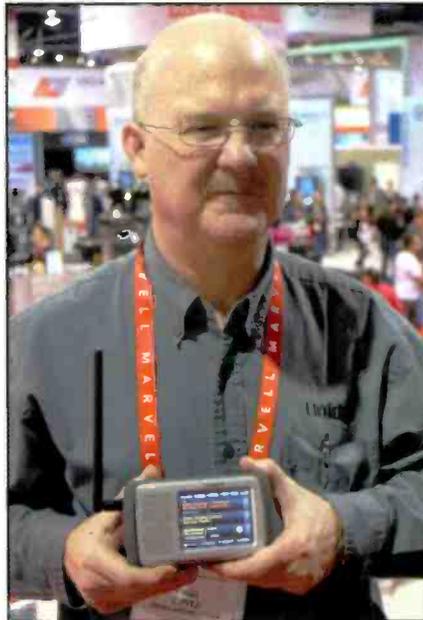


Photo F. Uniden's® Paul Opitz shows the hand-held size of the self-programming HomePatrol-1 scanner.

Both Wayne Wilson and Paul Opitz are past RadioShack® radio product executives, and while GRE America and Uniden are competing for the self-programming scanner market, each took time out to share a product forum on the Leo Laporte TWIT network, live at the Convention Center. This is how tightly knit the personal radio industry is — great products from innovative companies.

When it comes to taking the challenge out of complicated programming and creating an automatic hot-ticket item for exciting frequencies, my Top Scanner Award goes to GRE America and Uniden for offering such remarkable features at a price of about \$500.

Multi-Use Radio Service Products

Dakota Alert, Inc. is a family-owned company selling innovative multi-use radio service (MURS) products: Instead of short-range UHF or digital license-free spread spectrum, the company <<http://www.dakotaalert.com>> works its big line of home and office security systems on the longer-range VHF, 150-MHz MURS channels with 2 watts of output power, and pro-

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Photo G. The HOMEPATROL-1 scanner by Uniden® “includes a 2G micro SD card, and is pre-programmed with all-known U.S. and Canadian systems.”

vision for an outside antenna. Most driveway alarms might go 300 feet. Dakota Alert has a MURS unit that goes 3 miles!

The **Dakota Alert M538-HT** is a handheld MURS transceiver, **Photo H**, that can serve as the alert monitor for an activated sensor, or work on the five MURS channels with a similar HT, and



Photo H. The Dakota Alert M538-HT is a handheld MURS (multit-use radio service) transceiver “that can serve as the alert monitor for an activated sensor, or work on the five MURS channels with a similar HT.”



Photo I. Uniden® offers a submersible FRS/GMRS transceiver that’s worth checking out.

is capable of CTCSS in case you pick a channel that someone else is using, <<http://bit.ly/w7X0sj>>.

Since Dakota Alert is about the only manufacturer of inexpensive FCC-certified Part 95 gear, <<http://bit.ly/znRG84>>, there is not a lot of activity on these channels now that most fast-food restaurants have switched to short-range digital. *Would you like fries with that, madam?*

For commercial applications, Dakota Alert offers wireless phone dialers, digital video recorders and even a 25-foot rubber hose wireless alert for driveways, <<http://bit.ly/xTUQEP>> to let you know when your *safety zone* has been invaded.

Interested in MURS? Check out Dakota Alert, <<http://www.dakotaalert.com>>. The company is looking for distributors, as well.

Family Radio Service

We saw plenty of Family Radio Service — FRS — gear at the 2012 CES. There were HTs from Midland, Cobra, Uniden and Motorola. Some boasted range calculations of 10, 20, 24 and 28 miles. *Oh, really, now?* I even spotted one at 30 miles+.

What I discovered was that hardly anyone makes a 14-channel FRS radio anymore — they’re all now 22-channel GMRS transceivers, with the added channels beyond 14, as simplex on repeater outputs.

“Does the FCC still require these to be licensed?” one of the sales personnel *asked me!* I think each manufacturer is hoping the FCC will make some decisions on retaining (or not) the licensure for these GMRS-capable units even for short range “talk around” transceivers.

I did notice that the **Motorola Talkabout® MR356R**, <<http://bit.ly/wYFziA>>, is advertised as 22 channels, plus 8 repeater channels, allowing you to

join a repeater group and use this equipment for some actual 40-mile range contacts.

I discovered a Cobra transceiver with a *removable* antenna, which appeared to go against the FCC ruling on FRS gear that requires a *fixed* antenna. *Interesting!*

Guess what? This fun little radio did not include FRS channels 8 through 14, but *did* have shared FRS/GMRS channels 1 through 7, plus the GMRS repeater outputs. So I guess that makes it a GMRS radio. For that, it was certified, with a removable antenna! One could have some real fun down on FRS channels 1-7 with the added antenna capabilities.

Uniden offers a submersible FRS/GMRS transceiver, <<http://bit.ly/wCvChT>>, **Photo I**. If you plan to get your equipment really wet while rafting down the river, for example, this would be a great way to go. (**MORE:** *To see the full Uniden submersible line, visit <<http://bit.ly/xGFN2I>>.* — WPC6NOA)

I also learned the FCC has banned any new handhelds which incorporate marine VHF channels with any other radio band — *no more new ones*. However, you can still find some multi-band marine VHF transceivers that may include FRS, MURS and air receive, giving you double duty for both transmit and receive on two radio services. You may still continue to use this equipment as intended, but no newer models will be allowed in.

Into ‘The Business?’

Incidentally, if you’re thinking of getting into a sideline of selling personal radio gear, be sure to check in with Keith Eschilman of **CB Distributing**, <<http://www.CBDistributing.com>>, which had a booth at the CES show. It was factory-direct with major suppliers at the show, and while discounts aren’t really that deep for a legitimate re-seller of radio gear,



Photo J. The Bearcat 880 is among three 27-MHz Citizens Band transceivers Uniden® has added to its product line.



Photo K. Uniden's® Bearcat 980 CB transceiver — known as the *king of the road* — features upper and lower sideband transmission modes.

budding distributors can still pick up a few bucks if they're planning to get into the business.

New in Citizens Band Radio

Uniden® adds three 27-MHz Citizens Band transceivers to its exciting line of CB radios — with an eye-catching color trans-reflective screen on the **Bearcat 680, 880, and the king of the road Bearcat 980** — which includes upper and lower sideband, <<http://bit.ly/zTy4g9>>.

Each of these Bearcat CBs offers a new style of noise-canceling microphone assembly, with wireless microphone capability coming soon.

Pick the color display you want — among seven options — and the 880, **Photo J**, and 980, **Photo K**, include NOAA weather channels and weather alert. And check out the Uniden **BC125AT**, **Photo L**. And worry, not: The nine other Uniden CBs remain in the line.

Midland Radio® was showing off its new **9001Z**, <<http://bit.ly/yzPqBR>>, that has a handy feature for sleepy drivers — a built-in alarm or siren that will intermittently help keep you awake and your eyes on the road! (**MORE: The Midland GXT1000**, **Photo M**. **VISIT: The Midland Radio website**, <<http://www.midlandradio.com/>>. — WPC6NOA)

Cobra® was showing about 15 CB transceivers, with its C29 allowing for integration of a Bluetooth™ cellular phone, **Photo N**. You hear the return audio coming from its very loud built-in or optional speaker. As more states enact

rules against holding anything but the steering wheel in your hands, the Cobra Bluetooth™ feature may sure help. (**MORE: Cobra® Photos O and P**. **VISIT: The Cobra website**, <<https://www.cobra.com/>>. — WPC6NOA)

Surprisingly, I didn't see any CBs coming direct from China, and I *did spot* digital, no-license ISM (Industrial, Scientific, Medical) band handheld transceivers from Motorola®: The **DTR 410** and **DTR 550** offer 1-watt output on 900 MHz. And through spread spectrum frequency hopping, you're not likely to experience any interference, <<http://bit.ly/xIDXpH>>.

Sources tell me the range is about the same as a GMRS receiver on simplex, but the digital technology is excellent for one-on-one, defined group and blanket communications to everyone within the system. (**MORE: Visit the Motorola website**, <<http://bit.ly/yzAszQ>>. — WPC6NOA)

The **DTR 410** and **550** are priced about \$200 each. Contact CB Distributing for details on customer programming software availability, <<http://www.CBDistributing.com>>.

For the Radio Amateur

We saw the Alinco® line of amateur equipment in the booth staffed by GRE® America, the North American distributor for Alinco® products.

A savvy ham spotted Alinco's brand new 900-MHz/222-MHz **DJ-G29** dual band handheld radio, **Photo Q**. If you have 900-MHz activity in your area,



Photo L. The Bearcat BC125AT scanner by Uniden® features 500 channels with a wide range of frequency coverage: 25-54, 108-174, 225-380, and 400-512 MHz.



Photo M. The Midland® GXT1000 is a GMRS-FRS transceiver that is waterproof, has 50 channels and can run on either four AA alkaline batteries or an optional NiMH battery pack.

New! - PK-232SC with Sound Card, Rig Control, USB - All built-in!



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Photo N. About 15 CB transceivers were displayed by Cobra®, with its C29 allowing for integration of a Bluetooth™ cellular phone. “You hear the return audio coming from its very loud built-in or optional speaker,” WPC6NOA writes. The user has a choice of background colors on the rig’s display.

Alinco has the FM handheld just for you, with 222 MHz as a bonus! See it at: <<http://www.alinco.com/usa.html>>.

An Observation

I did not see a single Chinese *copycat* radio at CES, but I did see several exhibitors staying in touch with Part 90 <<http://bit.ly/Az8Q6v>> Chinese handhelds. They were everywhere and it was like a *free for all* on the frequencies — if the channel you were on was busy, just move up a few clicks. (Wonder where the FCC Chairman was on that one? — WPC6NOA.)



Photo O. The Cobra® Marine is submersible, features noise canceling and has Bluetooth™ capability.

At the show, I stayed in touch with our photographer-videographer **Julian Frost, N3JF**, using an ICOM D-STAR transceiver on 438 MHz, digital, simplex.

Cell phone traffic was extremely heavy within the CES buildings, but we could *yak* via amateur radio with the greatest of ease! The ICOM D-STAR radios had plenty of audio to be heard over the crowds — and there were plenty of crowds!

Broadcast Radios

Commercial broadcast AM radio is here to stay, reports Steve Rogers, K6PIJ, with C. Crane Co.® “We are the AM/FM portable radio specialists,” said Bob Crane, displaying the new **CC Gozo AM/FM Portable Radio** <<http://bit.ly/tnFYEx>> with a solid response, but in a compact size, **Photo R**. This popular radio uses conventional big capacitor analog tuning allowing the receiver to

wiggle between two strong stations and pull out a weak one.

The C.Crane team was showing its **CCRradio-EP** <<http://bit.ly/uATDL5>> as well, with twin coil ferrite antennas built in, taking the directionality out of a portable receiver, and still allowing the twin antenna system to be fine-tuned to cancel out interference, **Photo S**.

This radio uses conventional big capacitor tuning, as well, to pull out weak signals. Bob Crane, **Photo T**, was also pleased to report 2-meter ham radio tuning on the large CCRadio, replacing old analog TV channels with all the hot action on 144 MHz with multiple-memory-set capability. As always, C.Crane had a wide range of radios on display, **Photo U**.

C.Crane is also hot on cold illumination, with a big variety of LED lighting systems. If you need to add some LED lights to your ham shack, C.Crane has some counter lights that are exceptional, <<http://www.CCrane.com>>.

Another AM/FM radio specialty company is **Eton Corp.®** With both **Eton AM/FM radios**, the company has for more than 20 years been exclusive U.S. distributorship of **Grundig®** shortwave products. <<http://www.etoncorp.com>>.

The **Grundig Satellit 750** <<http://bit.ly/xGPaJq>> was a show stopper, with AM/FM/shortwave, aircraft band, single sideband shortwave reception, and the rotating AM antenna, **Photo V**.

A favorite was the **Eton Scorpion**, an AM/FM weather alert radio combining a crank charger, solar charger, internal batteries, and the ability to do some emergency cranking to charge a cell phone. <<http://bit.ly/xAY9cQ>>.



Photo P. The MicroTalk CXR825 transceiver is described by Cobra® as the “world’s most compact high-powered GMRS/FRS radio with extended range.”

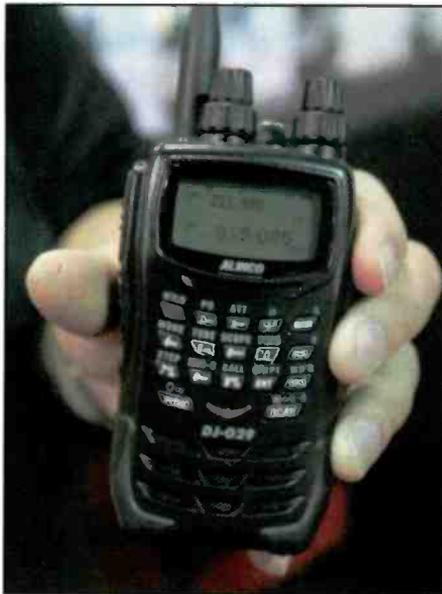


Photo Q. Alinco's brand new DJ-G29 dual-band handheld radio covers 900 MHz/222 MHz and is distributed by GRE® America.

If you already have a media player, Eton was showing its **Rukus Solar**, a Bluetooth™ sound system that booms out your audio within Bluetooth™ range, <<http://bit.ly/wWHVpN>>.

Eton has worked up a program with the American Red Cross with a big red cross seen on many of its emergency AM/FM radio systems, along with small emergency LED lights, <<http://bit.ly/wekRt1>>.

By the way: Tubes are *not gone* from big stereo systems. A check with **Audio Power Labs®**, <<http://www.AudioPowerLabs.com>> revealed a pair of 572B

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tubes in its 50-watt **AF-02 USB/Vacuum Tube Amplifier, Photo W**, plus a modest amplifier running with a pair of 833 tubes, normally found in the commercial broadcast service.

This gleaming amplifier would likely blow the top off of the CES room if it was given *some juice*. This new company was put together by Jerry Moersdorf, KC8ZUL, with Ryan Mendahl — one of the design engineers helping Bob Heil, K9EID. When he was just a teenager, Mendahl put together some amplifiers for Heil's concert organ.

Weather alert radios were all over the show, and the National Weather Service booth was teeming with commercial industry experts working to put NOAA high tech up with the nationwide alert system.

NOAA reports that the November 2011 National Emergency Alert System test for broadcast radio and television was a reasonable success, and many weather

alert receivers indeed sounded during the test. But NOAA reports there needs to be more done to assure the resulting audio after the alert gets through loud and clear.

Solar Stuff

We spotted all sorts of innovative solar power gear at the 2012 CES. **Wagan Tech®** <<http://www.wagan.com>>, in particular, had really interesting portable solar panels with built-in inverters. The company displayed the largest variety of solar panels we've seen, **Photo X**.

Weather Watchers

We saw some weather stations from **Davis®**, <<http://www.davisnet.com>> that featured wireless repeaters to extend the range of a digital unit to one-quarter mile. The Davis **Vantage Vue** is a commercial-grade weather system, specifically for home and office weather watchers, <<http://www.vantagevue.com/>>.



Photo R. The CC Gozo, by C.Crane Co.®, "uses conventional big capacitor analog tuning allowing the receiver to wiggle between two strong stations and pull out a weak one," writes Gordon West, WB6NOA.



Photo S. The CCRadio-EP, with twin coil ferrite antennas built in, takes "the directionality out of a portable receiver" while allowing the twin antenna system to be fine-tuned to cancel out interference. It's by C.Crane Co.®

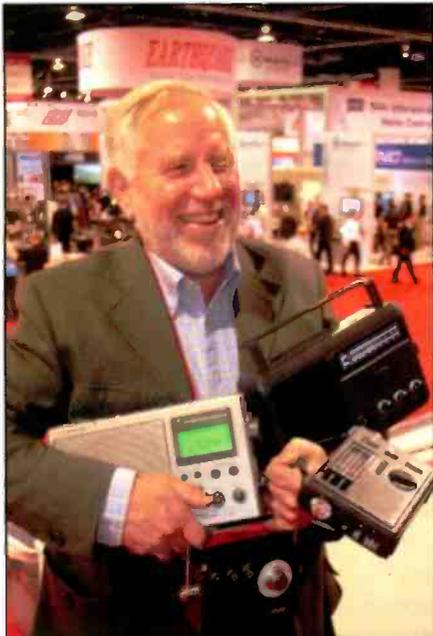


Photo T. Bob Crane, head of the C. Crane Co.®, has his hands full of radios at the 2012 Consumer Electronics Show in January.



Photo U. As always, C. Crane® had a wide variety of its products on display at the CES in Las Vegas.

But for the weather professionals, the Davis **Vantage Pro 2** is a meteorological marvel, <<http://bit.ly/xRmZlk>>. Of course, all tie-in to your home or office computer — there's even a provision for remote viewing.

For the SWLer and Tinkerer

For shortwave listeners, we spotted the new *Worldwide Listening Guide*, by John Figliozi. It's the new 5th Edition, fully updated, including AM/FM/shortwave, digital, podcast — you name it. It's from Master Publishing, Inc.

There is a great book, as well, called *Using your Meter: VOM & DVM Multitesters*, by Alvis, J. Evans with an introduction by Jack Hudson, W9MU. This new 3rd Edition, featuring 165 pages focusing on working with VOM and DVM multi-meters, is a great reference for the electronic tinkerer.

Each book, **Photo Y**, is available at: <<http://www.W5YI.org>>.

Bright Ideas With LEDs

Several exhibitors were selling 18-foot rolls of 12-volt DC LED light strips and LED edge lights — many colors, multi-color, and there were plenty of LED lamp assemblies for replacing power-hungry incandescent RV and boat lamps. Check out the **LED Post** website: <<http://www.LEDpost.com>>.

For ARRL Field Day, LED t-shirts were on display that pulse sound bars in time with the audio coming from your radio.

Radar: For the Road

Radar detectors were spotted in several booths with **Escort®** showing a micro-sized radar detector “super charged” for performance with built-in Bluetooth™ applications. The Escort applications may enable motorists to notify each other of speed



Photo V. The Grundig Satellit 750, distributed by C. Crane®, was “a show stopper,” according to Gordon West, WPC6NOA. The radio features AM/FM/shortwave, aircraft band, single sideband shortwave reception, and a rotating AM antenna.

traps ahead! (**MORE:** Visit the **Escort®** website: <<http://www.escortradar.com/>>. — WPC6NOA.)

Shhhhhhhhhh . . .

Ford Motor Co. gives us the green light that its new electric vehicles will be quiet on radio receive, and immune to modest on-board transmitting from an amateur or CB radio, according to Ford's Eric Kuehn. He gave us a look at engineering

papers showing all of the tests this vehicle has gone through regarding RF interference and sensitivity to RF transmission. *Good news!*

High Expectations

AA batteries from **GP Batteries®**, <<http://bit.ly/wAthS0>>, features NiMH chemistry that may now pack in up to 2700-mAh capacity. That is up 700 mAh from last year's 2000 mAh!

Meanwhile, CES will literally mesmerize you. The **LG®** exhibit featured more than 100 monitors grouped to show its new 3-D TV images, <<http://bit.ly/zCqSEY>>. They looked so



Photo W. Gordon West reminds us that tubes are not a thing of the past in big stereo systems. Check out Audio Power Labs'® 50-watt AF-02 USB/Vacuum Tube Amplifier, featuring a pair of 572B tubes.



Photo X. Wagan Tech® displayed a variety of portable solar panels with built-in inverters.

real, we had to duck several times as things went whizzing over our head.

It was a fun experience and LG has it nailed for 3-D TV!

Panasonic® had an impressive array of 61 screens to dazzle the crowds, **Photo Z.**

CES 2013 – See You in 'Vegas

We hope to see you at CES in 2013. While it's not open to the public, you can score free CES credentials through almost any consumer electronics business connection via the **Consumer Electronics Association**, <<http://www.CESweb.org>>.

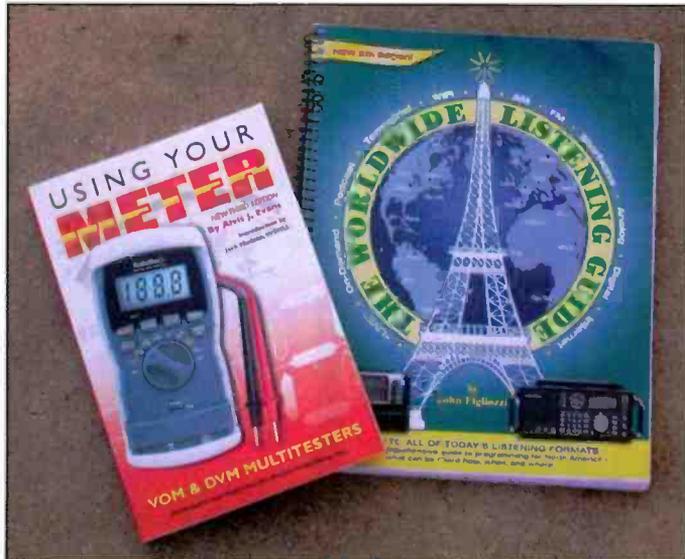


Photo Y. For the electronics tinkerer, check out *Using your Meter: VOM & DVM Multitesters*, by Alvis J. Evans, focusing on VOM and DVM multi-meters. For shortwave listeners, there's the new 5th edition of *The Worldwide Listening Guide*, by John Figliozi, featuring coverage of AM/FM/short-wave, digital, podcast — "you name it."

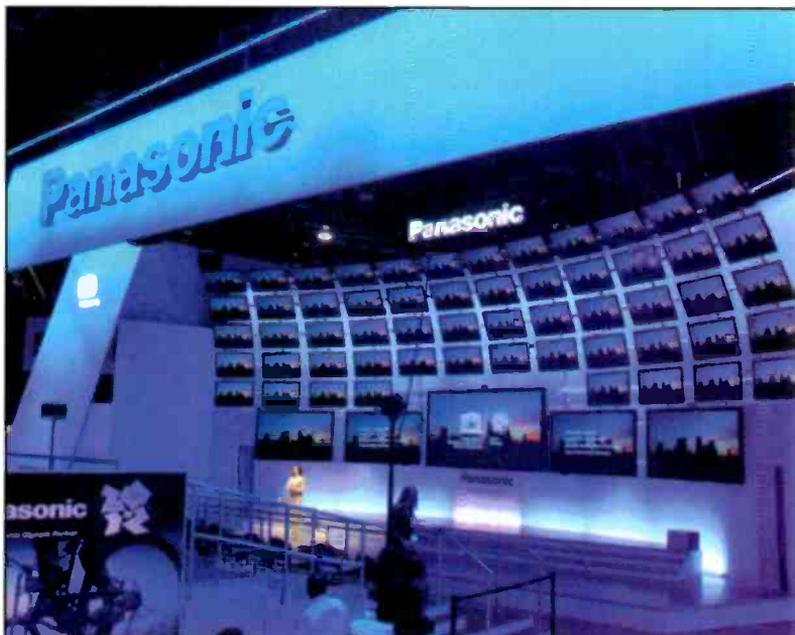


Photo Z. To "capture eyes" and dazzle the CES crowds, Panasonic® had an array of 61 screens.

CQD, SOS Titanic— The Brave Radiomen Who Gave It Their All

by R.B. Sturtevant, KPC7RBS/AD7IL

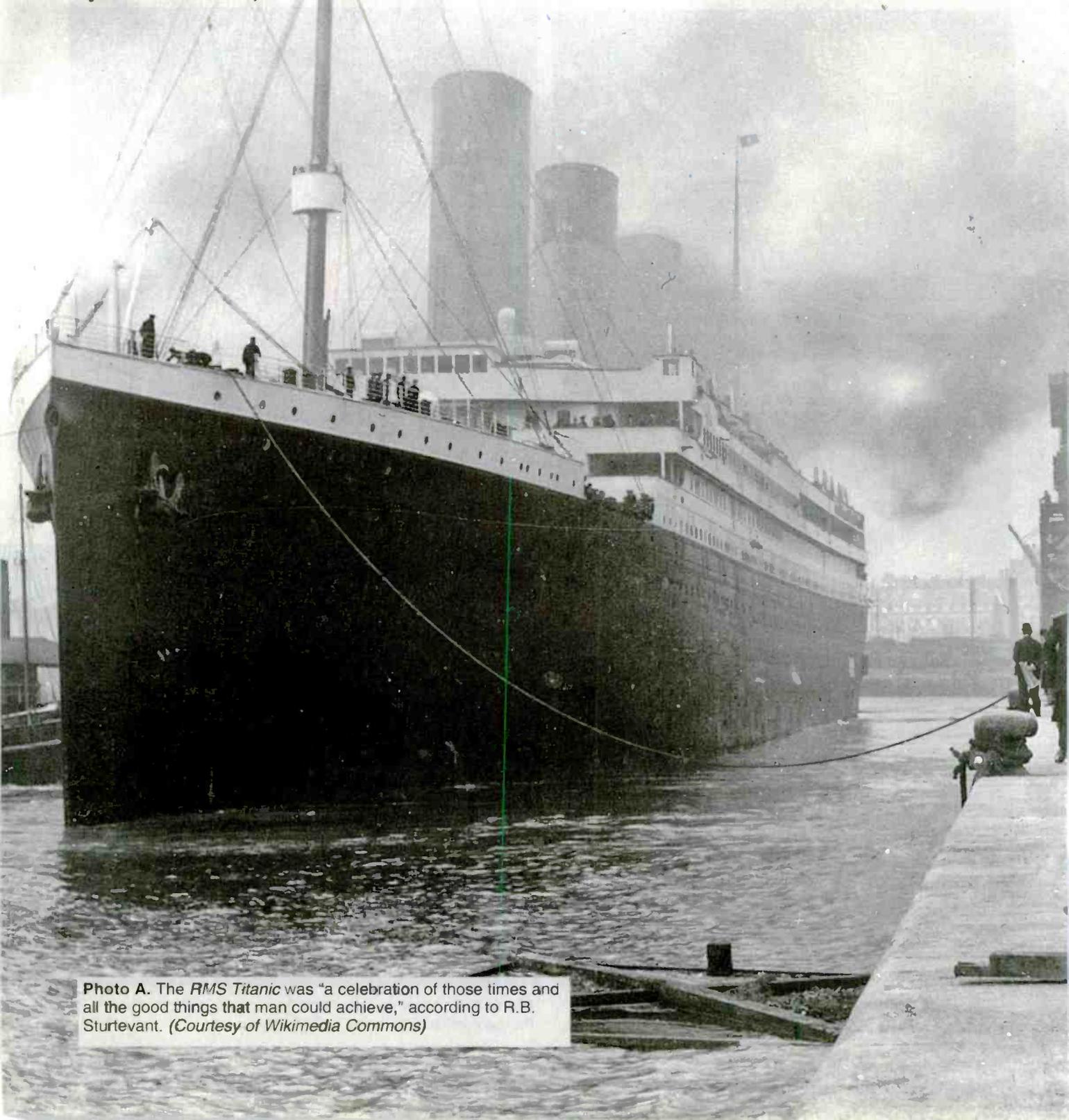


Photo A. The *RMS Titanic* was “a celebration of those times and all the good things that man could achieve,” according to R.B. Sturtevant. (Courtesy of Wikimedia Commons)

One-hundred years ago this month the country was in the midst of an era when there simply weren't a lot of rules. Government's job was to stay out of peoples' way and let them get on with business. And business was good.

Brand new in 1912, the great ship *RMS Titanic*, **Photo A**, was a celebration of those times and all the good things that man could achieve. Particularly in keeping with these "correct" ideas was the Marconi Room, **Photo B**, aft of the officers' quarters on the starboard side of the boat deck and 40 feet from the bridge.

It wasn't there for the *Titanic's* Captain Edward Smith, although he often used it to make progress reports. The radio was there primarily for the convenience of the passengers to send messages and greetings to their friends on shore.

No expense had been spared in the Marconi Room, either. There were two operators to telegraph messages out, twice the required number on ships of the day. In order to make sure the communication was first rate, the operators' employer, the Marconi Co., sent only its best men. Each operator was paid a whopping \$30 a month for their 14-hour, seven-days-a-week shifts. Most wireless men only made about \$20 a month.

The Radiomen

First Operator was 25-year-old John Phillips, **Photo C**, who had been a maritime wireless man, ashore and afloat, for four years. Second Operator was Harold Bride, 22, **Photo D**, who had served on ships for two years. Both were graduates of the Marconi Wireless Telegraphy School in Liverpool and had done well there.

The equipment of the Marconi Room was also the best available, **Photo E**. Phillips and Bride had installed it themselves and already made contact with shore stations at Malin Head, in the north of Ireland and White Star Line Headquarters in Liverpool, England during the ship's sea trials, **Photo F**.

The transmitter was a 1.5-kilowatt, spark gap coil that was housed in another room to reduce noise and the smell of ozone. It was the finest rig Marconi was making at the time and had an operational range of 150 miles.

Only one operator could transmit at a time, however. In those primitive days, the signal sent out took up more spectrum than

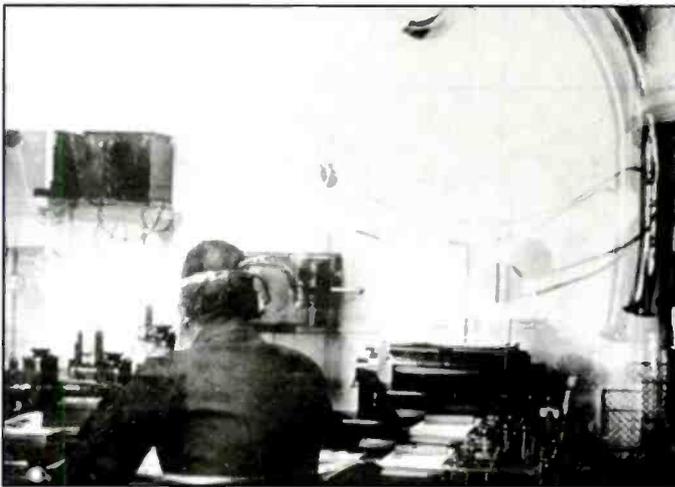


Photo B. Assistant Radio Operator Harold Bride is shown operating the Marconi wireless in this only-known photograph of the *Titanic's* wireless room. (Courtesy of the Great Yarmouth Radio Club, <<http://www.qsl.net/g3yrc/>>)

"At 1:25 a.m., First Operator John Phillips tapped out: 'We are putting the women off in boats.' By 1:35 a.m. he told the world: 'Engine room getting flooded,' then was asked: 'Are there any boats around you now?' Phillips' answer: 'No' . . ."

today's entire AM radio band. There wasn't enough frequency available for two operators to work at the same time.

But in the hands of experienced operators, even a primitive set like this one could do amazing things. During sea trials, Phillips and Bride exchanged messages with shore stations at Tenerife in the Azores (2,000 miles away) and Port Said in Egypt (more than 3,000 miles).

It was a luxurious ocean liner, for sure, and the *Titanic's* top-flight amenities did not end at the wireless room, **Photos G and H**.

A Busy Wireless Room At MGY

Titanic's callsign was MGY, the M denoting a Marconi Company station. In the 36 hours between the time the luxury liner left Southampton Docks and *Titanic's* collision with an



Photo C. First Radio Operator John Phillips, a wireless operator for four years when assigned to the *Titanic*, was 25 years old. (Courtesy of the Great Yarmouth Radio Club)



Photo D. Assistant Radio Operator Harold Bride, like Phillips, was a graduate of the Marconi Wireless Telegraphy School. (Courtesy of the Great Yarmouth Radio Club)



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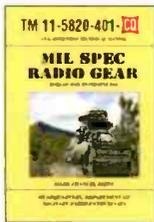
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Photo E. This replica of the *Titanic's* wireless room is on display at the American Museum of Radio and Electricity in Bellingham, Washington. (Courtesy of Linda Popovich and AMRE, <<http://www.http://amre.us/>>.)

iceberg. Phillips and Bride had sent or received 250 passenger telegrams.

An Ice Report, had come in from *MV Mesaba* on April 14 at 7:50 p.m. The collision was at 11:40 p.m. It was a Sunday, with the tragic drama playing out through the wee hours of Monday morning. **Photo I.**

The Mesaba's wireless operator had not used the prefix MSG, which meant the Ice Report message was for Captain Smith personally. If it had arrived that way, he would have been required to acknowledge the receipt with a reply.

Cyril Evans, an inexperienced wireless operator aboard the vessel *Californian*, sent out an Ice Report on April 14 just

before the *Titanic's* collision, fatefully shutting down his set and going off duty at 11:30 p.m. Evans also omitted the MSG prefix and did not mention that the *Californian* had come to a complete stop to avoid an ice collision. *She was a mere 10-miles away from Titanic.*

Some may criticize Evans, who slept through the entire *Titanic* disaster, but ships were not required to maintain a radio watch 24 hours a day. In fact, when Evans sent out his call, it interfered with Phillips' operation on the *Titanic*. He thought Evans was just calling to chat — a practice allowed when operators were not otherwise occupied.

Phillips, who had seven hours of tele-

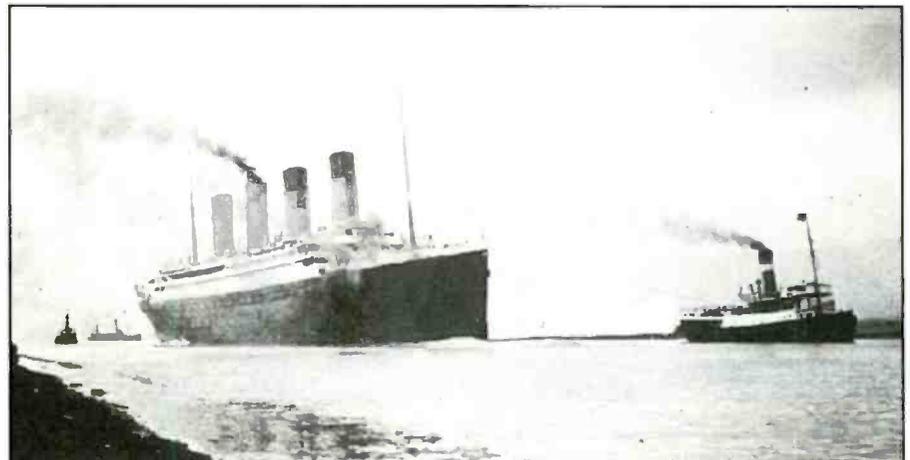


Photo F. The *Titanic* and its wireless equipment were put through the test during sea trials on April 2, 1912.



Photo G. The elegance of the amenities aboard the *Titanic* is reflected in the ship's massive dining room for first-class passengers. (Courtesy of Wikimedia Commons)

graph work sitting on his desk, was working Cape Race, Nova Scotia. That is why Phillips told Evans: *Keep Out, I'm working Cape Race. Get off the air.*

'Come At Once, We Have Struck a 'berg'

Assistant Operator Bride was asleep at the time of the collision. Neither he nor

Phillips felt the shock when it occurred, **Photo J.**

At 12:15 a.m. Captain Smith came to the Marconi Room to direct Bride, who was just coming on duty, to send out a call for assistance. Bride immediately interrupted Phillips from regular traffic and told him to make the distress call. SOS had not yet been introduced to marine stations as a call of distress.

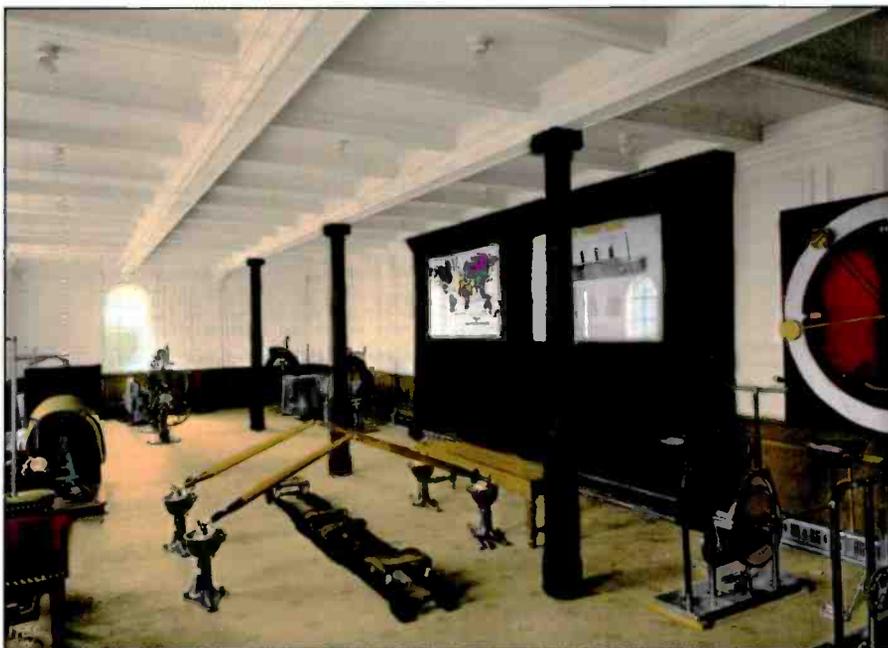


Photo H. A black and white photograph of the *Titanic*'s first-rate gymnasium was later colorized for affect. (Courtesy of Robert John Welch (1859-1936), official photographer for Harland & Wolff, and Floor712 recoloring, all via Wikimedia Commons)

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Any day you don't learn something new is a wasted day!

Phillips sent *CQD* – *CQ* meaning *calling any station*, and *D* standing for *distress* — a Morse abbreviation commonly known among the Marconi-operated stations of the day.

The *Titanic*'s call was heard by four ships and the Cape Race station — the only land station to hear the sinking ship's distress call. All were too far away to give aid, **Photo K**.

As time went on, more and more ships heard the call and became involved in rescue efforts or relaying message traffic.

It is interesting to note that aboard the *Californian* an officer who was interested in radio and could read Morse code tried to listen to the wireless to get the news. He couldn't hear anything at the time *Titanic* was sending her distress calls. In those days receivers were as much mechanical as electrical.

The *Californian*'s receiver was one of the newest of the time. It depended on moving a wire loop, which rubbed against a pair of magnets — creating a weak field — past the antenna and through the primary and secondary coils. This movement carried the signal into the headphones.

The inexperienced wireless operator had not rewound the clockwork mechanism that drove the system. So when the set was "turned on" the wire didn't move. The *Titanic* — just 10-miles away, and pounding out distress messages for all it was worth — remained unheard because the *Californian*'s set wasn't even picking up static.

At 12:25 a.m., the ship *Carpathia*'s wireless operator, Harold

Cottam, sent *Titanic* a message that Cape Cod Station was trying to reach it. The message was sent just before Cottam was scheduled to shut down and go off duty. When he was alerted by the *Titanic* to "*Come at once. We have struck a berg.*" Cottam informed *Carpathia* Captain Arthur Rostron, and the ship began a 58-mile race to save the *Titanic*. She was making 17 knots — faster than anyone thought the *Carpathia* could go.

Concern and Deadly Earnest

Phillips and Bride were young men who had been very much influenced by the White Star Lines' promotion of the "unsinkable" *Titanic*. This may have been why in the beginning they kidded around — thinking the whole episode was a great joke.

They kept a steady stream of distress calls and answering other ships queries for details of the emergency. After all, everyone knew "even God couldn't sink this ship."

In time, however, their jocular mood turned to concern and deadly earnest. Phillips remained at his key throughout the emergency tapping *CQD*, the ship's position, and calls for assistance.

After a time, Bride suggested Phillips send "the new call, *SOS* — this may be your last chance to use it, after all." Phillips did, and thereby may have been the first operator to send *SOS* and *CQD*, surely the only one on record who sent both signals.

At 1:25 a.m., Phillips tapped out: "We are putting the women

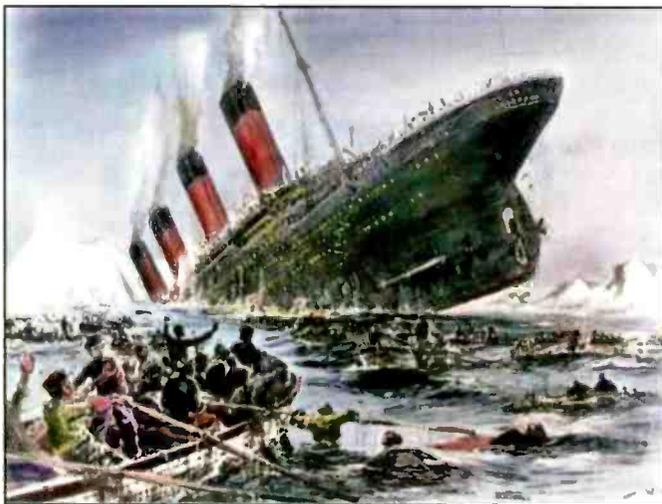


Photo I. This renowned painting of the *Titanic* disaster is by artist Willy Stower, who died in 1931. (Courtesy of Wikimedia Commons)



Photo J. The iceberg believed to have been rammed by the *Titanic*, was photographed by Stephen Rehorek, who died in 1935. (Courtesy of Wikimedia Commons)



HYDROGRAPHIC OFFICE,
WASHINGTON, D. C.

DAILY MEMORANDUM

M. S.

No. 1013. April 15, 1912.

NORTH ATLANTIC OCEAN
OBSTRUCTIONS OFF THE AMERICAN COAST.

Mar. 20 - Lat 24° 20', lon 90° 02', passed a broken spar projecting about 3 feet out of water, apparently attached to sunken wreckage. --EVELYN (SS) Wright.

OBSTRUCTIONS ALONG THE OVER-SEA ROUTES.

Apr 7 - Lat 35° 20', lon 69° 40', saw a lowermast covered with marine growth. --ADRIATICO (It. ss), Cevacu.

ICE REPORTS.

Apr 7 - Lat 45° 10', lon 66° 40', ran into a strip of field ice about 3 or 4 miles wide extending north and south as far as could be seen. Some very heavy pans were seen. --ROSLIND (Br ss), Williams.

Apr 10 - Lat 41° 50', lon 60° 26', passed a large ice field a few hundred feet wide and 15 miles long extending in a NNE direction. --EXCELSIOR (Ger ss). (New York Herald)

COLLISION WITH ICEBERG - Apr 14 - Lat 41° 46', lon 50° 14', the British steamer *TITANIC* collided with an iceberg seriously damaging her bow; extent not definitely known.

Apr 14 - The German steamer *AMERIKA* reported by radio telegraph passing two large icebergs in lat 41° 27', lon 50° 09'. --*TITANIC* (Br ss).

Apr 14 - Lat 42° 06', lon 49° 43', encountered extensive field ice and saw seven icebergs of considerable size. --*PTSA* (Ger ss).

J. J. ZHARRP
Command. U. S. Navy,
Hydrographer.

Photo K. A Hydrographic Office report dated April 15, 1912, notes: "COLLISION WITH ICEBERG . . . The British steamer *TITANIC* collided with an iceberg seriously damaging her bow; extent of damage not definitely known." (Courtesy of Wikimedia Commons)



Photo L. A Titanic lifeboat.

off in boats.” By 1:35 a.m. he told the world: “Engine room getting flooded,” then was asked: “Are there any boats around you now?” Phillips’ answer: “No.”

Cape Race shore station and all of the other ships coming to the *Titanic’s* aid passed traffic about what was known and who was closing in on the wounded ship.

At 1:45 a.m., *Carpathia* heard the last message it would hear from the *Titanic*: “Come as quickly as possible, OM. The engine room is filling up to the boilers.”

‘You Have Done Your Full Duty . . .’

At 2:05 a.m., Captain Smith came to the Marconi Room. “Men, you have done your full duty,” he told Phillips and Bride. “You can do no more. Abandon your cabin. Now it’s every man for himself.”

Phillips and Bride looked at Smith for a moment, then returned to their work. The captain tried again: “You look out for yourselves. I release you. That’s the way of it at this kind of time. Every man for himself.”

When Smith left the Marconi Room, Phillips was still sending, and kept sending until 2:10 a.m. when the power failed.

Just after Captain Smith left the room, Bride, who was preparing for both he and Phillips to leave the ship, turned and saw a stoker trying to steal Phillips’ life jacket. Bride grabbed the man. Phillips hit him in the face. The man fell to the floor.

With no power and unable to send further messages, Phillips and Bride went to the boat deck. All life boats had been dispensed, **Photo L.**

Swept Overboard, Only Bride Survives

Just two collapsible rafts remained on board. While trying to assist the crew in launching the rafts, both wireless operators were swept off deck by the rising water. Bride was picked up by the raft he had been trying to launch. Phillips was never seen again. It’s believed he could not have lasted long in the 28-degree water, **Photo M.**

Bride swam from the raft to an overcrowded lifeboat. He was finally taken aboard the *Carpathia* where he rested for a time in the ship’s sick bay. Shortly after, Bride went to its Marconi Room to give the *Carpathia* wireless operators some relief.

As more shore stations were picking up signals from the various ships involved in the rescue, they began to release information to the press. Marconi himself ordered the wireless room on the *Carpathia* to stay off the air after the ship had reached New York.

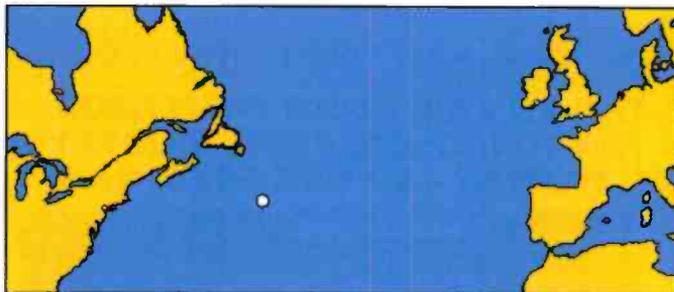


Photo M. The small white circle in this map of the North Atlantic shows the approximate position of the *Titanic’s* sinking. (Courtesy of MechBrowman via Wikimedia Commons)

Photo N. David Sarnoff, “is said to have produced some of the most exaggerated accounts of the *Titanic* disaster,” R.B. Sturtevant reveals. Sarnoff would go on to become President of RCA. (Courtesy of Wikimedia Commons)



Marconi had a contract to provide news for the Hearst Newspaper chain and wanted to keep the story to himself until he could control the news’ release.

As the story unfolded in the newspapers around the world, the general public learned of how important wireless had been, and *would be* in the future. Marconi Company stock jumped from \$55 to \$225 a share.

An Upstart Steals ‘The Show’

The manager of the Marconi Company station at the top of the Wannamaker Building in New York was doing his best to manage information of the *Titanic* disaster, as well. Twenty-one-year-old David Sarnoff — later to become a communications giant as the head of RCA (Radio Corporation of America) — is said to have produced some of the most exaggerated accounts of the disaster, **Photo N.**

It was not until 1976, with the release of Sarnoff’s biography “*An American Success*,” that author Carl Dreher revealed that many of the myths about the *Titanic’s* sinking came from Sarnoff or members of the press he was trying to impress.

Untrue was the story that President Taft had ordered all other stations off the air so Sarnoff could direct emergency traffic. The Wannamaker-New York station could only pick up the signals of a few of the distant ships. Sarnoff may have *heard* some



Photo O. Describing it as “The Most Appalling Disaster in Marine History,” *The New York Herald* devoted its entire front page to the *Titanic*’s sinking. (Courtesy of Wikimedia Commons)



Photo P. On April 17, 1912, the lead headline in the Italian newspaper *Il Secolo* — *The Century* — read: “The Most Disastrous Wreck in History.” (Courtesy of Wikimedia Commons)

Titanic traffic, but he never worked any rescue ships close to the stricken vessel.

Radio Interference

Much of the reason New York couldn’t hear the tragedy at sea was because that part of the east coast had a very active radio amateur community. Because spark gap transmitters put out signals over such a wide span of frequencies, ham interference prevented area stations from hearing the drama at sea.

In 1912, radio amateurs were neither licensed nor had any national organization. Everybody did pretty much what they wanted to do. When the story of the *Titanic* sinking appeared in the papers, **Photos O** and **P**, everyone was in a state of shock. Radio amateurs, in particular, wanted to do something to help.

One of the most painful issues was that nobody had been able to get a complete list of *Titanic* survivors to authorities in New York because interference on the air had jammed the signals.

Helping With the Survivor List, and Change in the Air

In 1922, *The Radio Book* published an account by Charles W. Taussig, a radio amateur who distinctly remembered the night of April 15, 1912. At 8 p.m., Taussig had tuned in his

receiver, but heard nothing. The band was eerily quiet. Radio amateurs were standing by, monitoring for survivors’ names. Anyone who tuned up to transmit was quickly told there would not be transmitting that night.

The next day, newspapers all up and down the east coast were able to publish a complete list of the approximately 700 survivors — most of the reports coming from the amateur radio community.

A flurry of investigations, hearings, conventions and laws were enacted after the *Titanic*’s sinking. Many new rules came into being regarding how ships were built, operated and equipped for wireless:

- More than one operator aboard
- Better and more standardized training for operators
- 24-hour radio watches, and many other regulations to make it safer and more effective to use radio in emergency situations

Some critics pointed to the *Californian* and her crew, saying they might have done so much more. It was also remembered, though, that just 10 years earlier, no one on the *Titanic* would have been saved. At that time no passenger ship designer had even thought of a Marconi Room. . .

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You Tell Us: Monitoring Magic Is Alive and Well

By Richard Fisher,
KPC6PC

“... I sometimes would put my hand on the speaker and feel the vibrations. I would think about all the distance that signal traveled... It was great and still is.” – Paul Butler, Sr., KPCØCHU

When *Popular Communications* launched the *Pop'Comm Monitoring Station* program January 1, we invited registrants to comment about their monitoring experiences as part of the enrollment process. Hundreds of you did. Here is what several of you had to say about the never-ending magic of monitoring.

– Richard Fisher, KPC6PC

Alan Marote, WPC1GAC, Acushnet, Massachusetts

In about 1958 at the age of 8, I began listening to high-frequency broadcast and utility stations with a Zenith Trans-Oceanic receiver. I later built a kit receiver, a Knight Star Roamer. (**WATCH:** A *Knight Star Roamer shortwave receiver in action*, <<http://bit.ly/xR1nx2>>, **Photo A.** – Ed.)

When the *Popular Electronics* WPE program began, I joined and received the station ID

WPE1GAC. As an SWL I sent many QSL cards to broadcast stations. I later became interested in sending QSLs to ham radio operators as a way to collect more QSL cards.

I used to listen to 75- through 10-meter phone and would send QSL cards to those I heard. I later learned Morse code as a way to collect *even more* QSL cards! 'Round about 1964, a few local hams who I had sent QSLs to invited me to their homes to show me amateur radio first hand. *Wow!*

Without ever intending to become a ham, I became WN1EWE in 1965 and later WA1LBG in 1970! Now licensed nearly 47 years, I still remain an SWL at heart. – WPC1GAC

Rizkallah Azrak, ODPC5RI, Baabdat, Lebanon

It was in 1975 when the war began in Beirut, Lebanon and I discovered shortwave when I was



Photo A. One of the early shortwave radios at the listening post of Alan Marote, now WPC1GAC in Acushnet, Massachusetts, was an Allied Knight Star Roamer, like the one shown in action in this YouTube video:



Photo B. The flag of Lebanon, home of the listening post of Rizkallah Azrak, ODPC5RI, in Baabdat. (Courtesy of Wikimedia Commons)

trying to search some broadcast radio for my father to hear the latest news. (SEE: *The flag of Lebanon in Photo B.* – Ed.) I was fascinated by monitoring and scanning the shortwave bands. Then I got my amateur radio license in 1991. *I love radio.* – ODPC5RI

Don Jensen, WPC9EZ, Kenosha, Wisconsin

Many, many years ago, when Tom Kneitel (founding editor of *Pop'Comm* and the driving force behind the *Popular*

Electronics Short Wave Monitor program) began issuing WPE station ID signs, I was registered as WPE9EZ. Later, when Hank Bennett took over the monitor registration program independently of *Popular Electronics* magazine, I re-registered as WDX9EZ.

To be WPC9EZ would continue this long tradition and bring back some good memories.

By the way, for a number of years during Tom's editorship, I wrote a goodly number of shortwave features for *Pop'Comm*. An interesting time, looking back on it. Incidentally, having logged my first shortwave station in April 1947 – HCJB, **Photo C** – I am still at it some 65 years later! – WPC9EZ

Paul Butler, Sr., KPCØCHU, Liberty, Missouri

I have been an SWL since 1961. My friend had an old Philco radio with shortwave bands on it. We would listen until late at night. *It was like magic.* I was hooked. He was not.

That Christmas I got a Norelco shortwave radio that fit into headboard of my bed. (SEE: *Norelco shortwave receivers*, <<http://bit.ly/ydTeps>>. – Ed.)

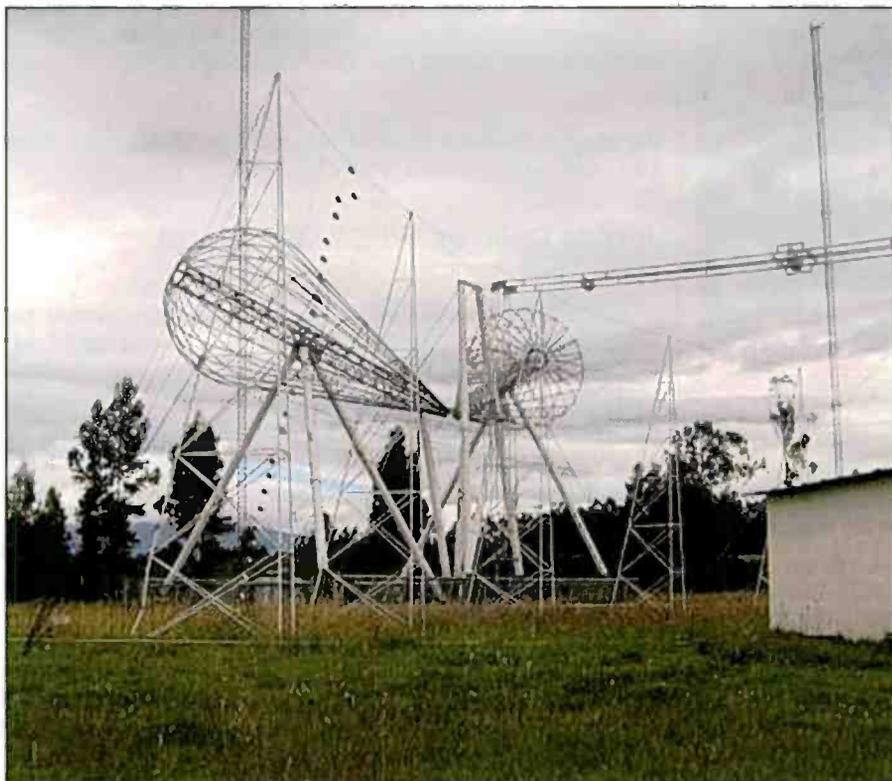


Photo C. In this 2007 photograph, the steerable "mixer-antenna" is front and center at the HCJB antenna site in Pifo, Ecuador. (Courtesy of Mschaa via Wikimedia Commons)

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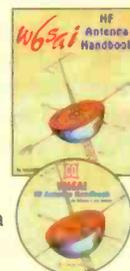
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I listened to everything from WJG-Memphis to VOA Short Stories. I had no BFO, but most of the hams were AM.

Many nights I fell asleep listening to CHU in Canada. I sometimes would put my hand on the speaker and feel the vibrations. I would think about all the distance that signal traveled, all the cities and towns it passed over and all the different people. It was great *and still is*.

I am so glad to see this program. It reminds me of the old days — Uncle Tom's Corner. Now I have every *Pop'Comm* from 1986 to today. I got carried away not wanting to miss a copy, so I renewed over and over. Now I am paid up until 2020. Thanks again for the program and a great magazine. — *KPCØCHU*

Cliff Dice, WPC8WHO, Edison, Ohio

When I was seven years old, my uncle gave me an Allied knight@-kit Crystal Set for Christmas. <http://bit.ly/xHM796>. I spent hours DXing stations during the late evenings. (*The cover of the Allied knight@-kit Crystal Set Instruction Manual is shown in Photo D.* — Ed.)

Since then I have been an Extra Class amateur radio operator for more than 30 years and a loyal subscriber to *Pop'Comm*. I still spend many evenings DXing AM radio stations. I also restore and collect vintage radios and have more than 300 in my collection.

As W8WHO, I am a member of the American Radio Relay League, Quarter Century Wireless Association, Antique Wireless Association, Central Ohio Antique Radio Association

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Photo D. Since getting an Allied knight@-kit Crystal Set for Christmas as a 7-year-old boy, Cliff Dice, WPC8WHO, of Edison, Ohio, has been hooked on radio — both as an SWL and amateur radio operator. Here's what the crystal set kit manual's cover looked like. (*Courtesy of KPC6PC*)

the Marion Amateur Radio Club and am ARRL Extra Class VEC Accredited. — *WPC8WHO*

James Dolliver, WPC2JRD, Minoa, New York

I finally decided in 2009 to get my ham radio license and studied very hard to pass both the Tech and General exams. My amateur callsign was KC2UZQ. My amateur radio buddies chided me a bit too much over how it sounded like *Suzy Q*. So, I decided right then to request a vanity call from the FCC.

My callsign now is W2JRD. I love ham radio, but honestly what got me so interested in radio was *shortwave listening*. I am 51 years of age and I can remember vividly my first experience with radio was a RadioShack® Patrolman 6 all-band radio that gave me so many hours of pleasure. (*IN DEPTH: Details of the RadioShack® Patrolman 6 at http://bit.ly/zzWlCu*. — Ed.)

I owe my listening to shortwave and scanner transmissions to be what brought me to study for the amateur radio exam. I have been a longtime reader of many publications and *Pop'Comm* has been one of them. I would be so proud to have the *Pop'Comm Monitoring Station ID sign* WPC2JRD to show my first love of shortwave listening. Thank you very much for your efforts in bringing this back. Looking forward to my new station ID sign. — *WPC2JRD*

Pop'Comm-Bates April 2012 Reader Survey

Your feedback is important to us at *Pop'Comm*. It helps guide us to make the magazine even more valuable to you each month. As explained in this month's *Tuning In*, page 4, *Pop'Comm* is conducting the April Reader Survey with the assistance of shortwave radio consultant **Urban Bates, YJPCIUB, of Mount Tabwemasana, Espiritu Santo, Vanuatu.**

Please take a few minutes to fill out this month's Reader Survey Card and circle the appropriate numbers corresponding to the questions below. We'll pick a respondent at random for a year's free subscription or an extension of an existing subscription as thanks for your participation — so don't forget to fill in your mailing address and other contact information.

We encourage your comments and suggestions in the space provided, as well. Thank you.

Last, but not least: You can now take this survey online. See details below.

Have you ever picked up the ocean on your shortwave receiving set?

- Yes 1
 No 2
 What in blazes are you talking about? 3

Do you ever listen to shortwave without an antenna?

- Yes 4
 No 5
 Refer to response 3 in question 1 6

I love a nice piece of Mahi-Mahi, but now it upsets my stomach.

- This is not a question 7
 I prefer a freshwater catch 8
 You should see a doctor immediately 9

In 1942 I picked up Radio Xanadu. I could hear Olivia Newton-John fading in and out of the Mongolian narrative. Has this happened to you?

- Yes 10
 What? 11
 No, but I could hear Gene Kelly's dance steps 12

For the most part, do you find April Fools pranks interesting or annoying? (Use the comment line.)

Take This Reader Survey Online

You can now participate in this reader survey via the Internet. Simply go to *Pop'Comm On the Web*: <<http://www.popcommmagazine.blogspot.com/>> and click the link to the *Pop'Comm-Bates April 2012 Reader Survey*. It's quick and easy.

April's Winner . . .

For participating in the *Pop'Comm Readership Survey*, the winner of a free subscription or extension is **Bob Fraser of Belfast, Maine**, who writes: "All spectrums interest me. I'll DX anything I can get!" *Now, that's the ticket, Bob. Way to go! - Ed.*

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MONITOR OF THE MONTH

Listening, Around the World

VEPC1CQ, Mineville, Nova Scotia, Canada



By Murray Lycan,
VEPC1CQ

Murray Lycan, who holds amateur radio callsigns VA1CQ/7J1AQH, is Atlantic Sales Manager for ICOM Canada. He applied for VEPC1CQ in the Pop'Comm Monitoring Station Program and it was assigned to him January 18. As you'll see, he's been in the monitoring game a long time, and gets the same thrill today from tuning in far away stations as he did as a kid. From his Mineville, Nova Scotia listening post, here is his story.

Please tell us about your monitoring experience. Write to Pop'Comm Monitor of the Month at: <PopCommMonitor@gmail.com>.
— Richard Fisher, KPC6PC

What a great walk down *Nostalgia Lane*.

Forty-two years ago, I registered as **VE7PE1EO** in North Vancouver, B.C., with the *Popular Electronics* Short Wave Monitor program. I still have the original certificate in mint condition. It was signed by Oliver P. Ferrell, WPE2XZ, and Hank Bennett, WPE2FT.

I have another certificate with the ID of **VE7DX1EO** dated December 1970, and signed by Amelia J. Greenwald, WDX2BA, and Hank



Photo A. Circa 1970, here is what the SWL listening post of Murray Lycan looked like, featuring a Soundesign Model 6540 receiver, a small reel-to-reel tape recorder and a *Popular Electronics* Short Wave Monitor certificate on the wall — with the ID sign VE7PE1EO at Vancouver, British Columbia. Today, he is Pop'Comm monitor VEPC1CQ. (Photography courtesy of VEPC1CQ)

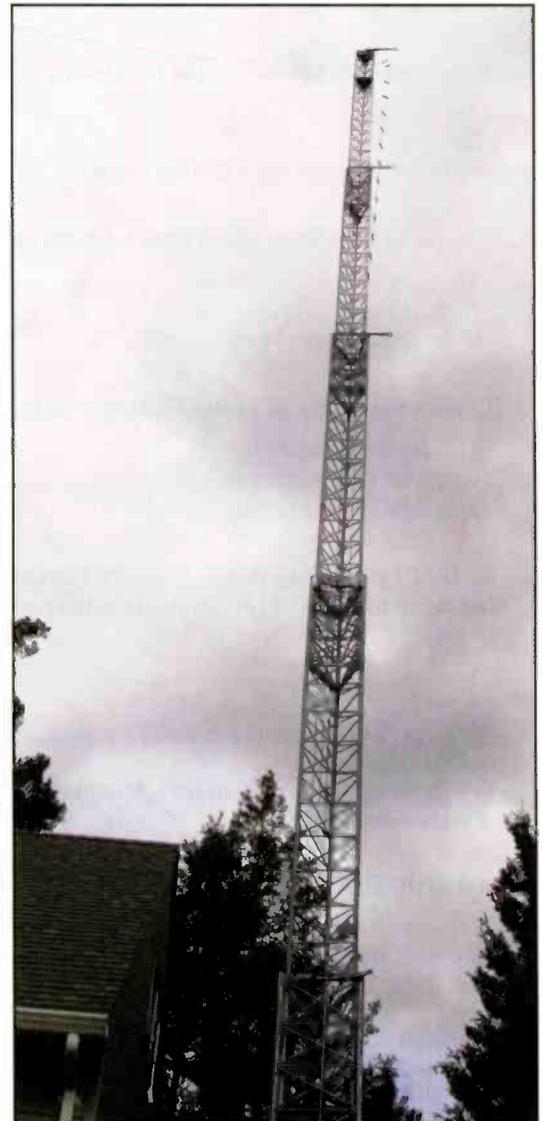


Photo B. A 90-foot tower at VEPC1CQ strikes an impressive pose at Murray Lycan's Nova Scotia listening post.



Photo C. When it's time to *hunker down*, the 90-foot tower at VEPC1CQ can be compacted to a package that's about the same height as the house it stands beside.

Bennett WDX2FT. I guess the program must have been transferred probably after *Popular Electronics* ended publication.

The first shortwave radio I ever owned was a **Soundesign Model 6540** all-band portable: A receiver only good for nos-

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talgic purposes. It was a \$49.95 portable purchased by my father exclusively for my use — via a mailed-out offer from Esso.

It was sensitive enough, but tuning required holding one's breath and moving the tiny frequency control a microscopic amount or you would be out of the entire shortwave band of interest.

I heard hams using AM on 160 meters, marine stations, and shortwave stations from **HCJB, Quito, Ecuador** and **Radio Netherlands** in **Hilversum, Holland**, not knowing at the time that station was

probably really transmitting from **Bonaire, Netherlands Antilles**. I also received **Radio Japan**.

I still have all those SWL QSLs. Only a 15-year-old kid with no money and patience of the ages would tolerate such a device as the Soundesign Model 6540, but I spent hundreds of hours in my own world.

Photo A is of that first station from January 1970. The WPE *Short Wave Monitor* certificate is in the center on the wall. Although the Soundesign Model 6540 was disposed of along the way, I



Photo D. A few years ago, VEPC1CQ acquired vintage Heathkit gear — fulfilling a dream he had as a kid.

New Members: *Pop'Comm* Monitoring Station Program

Here are some of the listening posts recently issued a *Pop'Comm Monitoring Station* identification sign, authorized to obtain a Certificate of Registration and welcomed to this new monitoring community.

— Richard Fisher, **KPC6PC**

KPC and DX Prefixes

New monitors are listed by name, station identification sign, and monitoring station location.

Janet Margelli, **KPC6MF**, Garden Grove, CA; John Callarman, **KPC5QRM**, Krum, TX; Johnithan Duer, **KPC0QAQ**, Cape Girardeau, MO; Chuck Gysi, **KPC9DX**, Aledo, IL; Bob Comeau, **VEPC1ARN**, Simpsons Corner, Nova Scotia, Canada; Roy Crosthwaite, **KPC0RFF**, Lakewood, CO; Rick Kaumeier, **KPC0VJ**, Littleton, CO; Christopher Webster, **KPC5CNW**, Arlington, TX; Michael Reynolds, **KPC6SWL**, Santa Barbara, CA; Richard La Rose, **VEPC3RLX**, Brantford, Ontario, Canada; Terrance Gibson, **VEPC3SWL**, Welland, Ontario, Canada; Ernie Rice, **KPC8ELR**, Hamilton, OH; Weldon Wales, **KPC5VEL**, Fort Worth, TX; John LaDow, **KPC8MOO**, Dublin, OH; Robert Puckett, **KPC0PVG**, Montrose, CO; Glenn Briden, **VEPC1GMB**, Thornhill, Ontario, Canada; Joe Haddakin, **KPC6JTH**, Hemet, CA; Scott O'Donnell, **KPC6OC**, Yorba Linda, CA; Al Morse, **KPC7CB**, Beaverton, OR; Robert Earl, **KPC7UIH**, Jacksonville, OR; Richard Corbett, **XEPC1SWL**, Guadalajara, Jalisco, Mexico; Matthew Sadler, **KPC4LHP**, Harrison, TN; Gordon Conroy, **VEPC3ODD**, Barrie, Ontario, Canada; Steven Hughins, **KPC5SMH**, Breckenridge, TX; Antonios Kekalos, **KPC8RNI**, Traverse City, MI; Trevor Taylor, **VEPC3TLT**, Staffordville, Ontario, Canada; Bryan Webler, **KPC8BW**, Alliance, OH; Charlie Cardenas, **KPC5FWX**, Fort Worth, TX; Brian Donald, **VEPC3BSD**, Ingleside, Ontario, Canada; Paul Waltmyer, **KPC6DX**, Santa Cruz, CA; Ivan Dias da Silva, **PYPC2RDX**, Sorocaba, São Paulo, Brazil; Bryan Herbert, **KPC6GZP**, Newhall, CA; Ralph Anderson, **FPC9GGZ**, Herepian, Languedoc-Rousillon, France; Terry Moorby, **VEPC3DIJ**, Ottawa, Ontario, Canada; J. Gordon King, **KPC7OTB**, Port Orchard, WA; James Allen, **KPC6AM**, Los Altos, CA; Rizkallah Azrak, **ODPC5RI**, Baabdat, Lebanon; Alan Leder, **KPC2NJ**, Paterson, NJ; John Leonardelli, **VEPC3XWA**, Maple, Ontario, Canada; Curtis Tooley, **KPC9CT**, Morton, IL; David McCormick, **KPC9DV**, Holland, MI; Edward S. Maikranz, **KPC5UN**, Abilene, TX; Randy Kaeding, **KPC8TMK**, Stevensville, MI; Bob Wortman, **KPC6VYH**, Orangevale, CA; Phillip Waltman, **KPC4ZVW**, Merritt Island, FL; Mia Hughins, **KPC5MIA**, Breckenridge, TX; Bill Beyrer, **KPC3ZIV**, Chambersburg, PA; Lawrence W. Harrison, **VEPC7LWH**, Victoria, B.C., Canada; Jim Eadie, **VEPC3DCX**, Coe Hill, Ontario, Canada; Charles Graham, **KPC6DCD**, Concord, CA; John Letney, **KPC5CVT**, Laredo, TX; Albert P. Bowers, **KPC6FBB**, Apple Valley, CA; Jerry Pumo Jr., **KPC2MD**, Colonia, NJ; George Boules, **KPC9SA**, Griffith, IN; John Persohn, **KPC5FOM**, Horseshoe Bay, TX; Dennis Ellis, **KPC0DRE**, Colorado Springs, CO; Harry A.

Schools, **KPC3HS**, King of Prussia, PA; Thomas Dunbar, **KPC6ESL**, San Jose, CA; Robert Snyder, **KPC2EVU**, Oneonta, NY; Gary Roberson, **KPC5OK**, Broken Arrow, OK; Spencer Sholly, **KPC5SGS**, Killeen, TX; John Murphy, **KPC0JPO**, New Town, ND; Ronald Erickson, **KPC0IC**, Essex, IA; Steve Henderson, **KPC5RHH**, Las Cruces, NM; Arthur Thompson, **KPC7MD**, Syracuse, UT; Chris Hendricks, **KPC5BA**, Broken Arrow, OK; John Johnson, **KPC7MT**, Billings, MT; Arv Larson, **KPC6ARV**, San Diego, CA.

WPC Prefixes

Also: Scott Welch, **WPC6HNT**, San Carlos, CA; David Barger, **WPC2SWL**, Kingston, NY; Gregory Lamb, **WPC4TSA**, Fort Mitchell, KY; Dave Morey, **WPC8FM**, Harrisville, MI; William Isenberg, **WPC2NAM**, Haskell, NJ; Randy True, **WPC4NKY**, Ryland Heights, KY; David Terrell, **WPC8DST**, Somerville, OH; Charles King, **WPC4QU**, North Chesterfield, VA; Joe McElhaney, **WPC3JM**, Apollo, PA; Richard Tarozzi, **WCP3RT**, Broomal, PA; Leonard Estorge, **WPC5AD**, Baton Rouge, LA; Dante Torrese, **WPC2GVA**, Ardsley, NY; Mark Burnham, **WPC1MBB**, Spencer, IN; David Nugent, **WPC9ISP**, Tell City, IN; David Terrell, **WPC8DAT**, Somerville, OH; Edward M. Olszewski, **WPC2EO**, Elmhurst, NY; Denis Jackson, **WPC4RFZ**, Pfafftown, NC; James Damron, **WPC8TMW**, Charleston, WV; Eddie Cail, **WPC4LRB**, Palm Coast, FL; Howard Brown, **WPC1CGH**, Norfolk, MA; Mark Meece, **WPC8MM**, Miamisburg, OH; Greg Ciulla, **WPC2BAS**, Franklin Square, NY; Tom Swisher, **WPC8PYR**, Commercial Point, OH; Joseph Sabo, **WPC7BTZ**, Bothell, WA; Leroy Murphy, Jr., **WPC8LEM**, Greenville, OH; Frank McJunkins, **WPC7ARB**, Seattle, WA; Carl Rosell, **WPC2KQD**, New Providence, NJ; Joe Neely, **WPC4JDN**, Knoxville, TN; Daniel Moore, **WPC2AWJ**, Huntington, NY; Jerry Jetzer, **WPC9TKO**, Sheboygan, WI; James Andrews, **WPC8JWA**, Kettering, OH; Joe Spears, **WPC4JS**, Conover, NC; James Perry, **WPC3JP**, Schwensville, PA; Ed Muro, **WPC2CIA**, Bethpage, NY; Curt Schlueter, **WPC9IHW**, Puyallup, WA; Kenneth Stark, **WPC4KJS**, Cary, NC; Mike Clawson, **WPC3MUX**, Evans City, PA; James Davis, **WPC1ADF**, South Bristol, ME; Quentin Davis, **WPC9Hfy**, Clarksville, IN; Frank Swiderski, **WPC8FZS**, Ashtabula, OH; Joseph Bedlovies, Jr., **WPC1EB**, Milton, CT; Robert Fraser, **WPC1ME**, Belfast, ME; David Marik, **WPC8KTM**, Oak Harbor, OH; James Raia, **WPC2NJ**, Fairview, NJ; Garry Bacon, **WPC4CHR**, Greenville, NC; Jack Lionis, **WPC3JAL**, Hermitage, PA; David Yetman, **WPC1PHT**, Temple, NH; Charlie Friderici, **WPC2KVZ**, Niskayuna, NY; Harold Kramer, **WPC1DYJ**, Cheshire, CT; Jim Pruitt, **WPC7JP**, Ellensburg, WA; Howard Pepper Jr., **WPC4HWP**, Palm Coast, FL; Preston Holland, **WPC4PH**, Spring Hill, TN; Howard Weinstein, **WPC3SS**, Ashley, PA; John Nolan, **WPC7TB**, Pinetop, AZ; Paul Maciel, **WPC1GWN**, San Jose, CA; Richard Frost, **WPC2HOV**, Covington, GA; Mark Garris, **WPC4WPG**, Chesterfield, VA; Robert Ott, **WPC8OIF**, Bunker Hill, WV; Frank White,

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Photo A. For complete information on the *Pop'Comm Monitoring Station* program, see the January 2012 edition of *Popular Communications*. To join, visit *Pop'Comm Monitors On the Web*: <<http://popcommmonitors.blogspot.com/>>. If you have questions, write PCMS Director of Registration Jason Feldman, WPC2COD: <PopCommMonitor@gmail.com>.

WPCØBE, Franklin County, KS; John Hengel, **WPCØYOU**, St. Cloud, MN; Ronald Payne, **WPC4YOU**, Fairfax, VA; David Bixler, **WPCØDX**, Seneca, MO; Marshall Beveridge, **WPC8LAV**, Waldo, OH; Jerry F. Schmidt, **WPC9JFS**, Eau Claire, WI; Neil Schlaffer, **WPC9NSS**, Chicago, IL; Barry Sandefer, **WPC4SS**, Paris, TN; Pam Brewster, **WPC8PAM**, Warren, MI; Monte Stark, **WPC2CW**, Boise, ID; Christopher Brewster, **WPC8OJX**, Warren, MI; Harry Taylor, **WPC3HJT**, Lansdowne, PA; Charlie Trice, **WPC8IJ**, Alexandria, KY;

James Woodrum, **WPC9JAW**, Springfield, IL; Jay Budzowski, **WPC3GX1**, New Castle, PA; Jeramy Ross, **WPC5XTL**, Lawton, OK; Kenneth Pietrucha, **WPC2OKZ**, Cranford, NJ; Michael J. Connelly, **WPC1XX**, North Weymouth, MA; Jim Kellner, **WPC2OQJ**, Hicksville, NY; Robert Stein, **WPC2EP**, New York, NY; Dave Suuronen, **WPC1DS**, Newburyport, MA; Tom French, **WPC4TJF**, Aiken, SC; Jamie Dean, **WPC4JD**, Valdese, NC; Jeff Masterson, **WPC7IVA**, Post Falls, ID; Anthony Pazzola, **WPC2BEJ**, Albany, NY; Stan Horzempa, **WPC1LOU**, Wolcott, CT; Don House, **WPC3QM**, Lancaster, PA; Harry Cyrus, **WPC4CCI**, Lexington, KY; Thomas Kelly, **WPC8HMR**, Novelty, OH; Chris Daniel, **WPC5SWL**, Mena, AR; Robert Griffin Jr., **WPC4BG**, Nashville, NC; Douglas Wilton, **WPC4CQ**, Huntsville, AL; William G. Harrison, **WPC4FL**, Coral Springs, FL; Keith Campbell, **WPC3ZL**, Mobile, AL.

For complete information on the *Pop'Comm Monitoring Station* Program see the January 2012 edition of *Popular Communications*. To join, visit *Pop'Comm Monitors On the Web*: <<http://popcommmonitors.blogspot.com/>>, **Photo A**. Questions? Write: <PopCommMonitor@gmail.com>.

– Jason Feldman, WPC2COD
Director, PCMS Registration
<PopCommMonitor@gmail.com>



Photo E. A Ku-band dish on a six-foot-tall tower helps Murray Lycan pursue one of his other monitoring passions — satellite TV DXing.

found the identical model on eBay about 10 years ago and bought it. I now have a Soundesign Model 6540 in my shack again.

This all led to a lot of stuff happening along the way. I got a bigger antenna, **Photos B and C**. I've acquired lots more radio equipment, including some vintage **Heathkits** I acquired just a couple of years ago. As a kid, I always wanted those radios, **Photo D**.

Directly as a result of this early fun, I have lived in Japan multiple times for a cumulative total of about seven years, working for companies such as ICOM and Kenwood. And I've enjoyed radio activities continuously since those early years, including operating ham stations from many exotic countries.

Fortunately, I have some nicer equipment now. But I still enjoy sitting down in my living room with my **Grundig Satellit 750** portable, <<http://bit.ly/xGPaJq>>, similar to the early days — checking to see what I can hear. And Radio Netherlands and Radio Japan are still there. Maybe the constancy through the years in a changing world is one of the things that are so appealing.

My latest activity is satellite TV DXing with a 1-meter motorized Ku-band dish, **Photo E**. Perhaps that is an activity *Pop'Comm* should consider covering.

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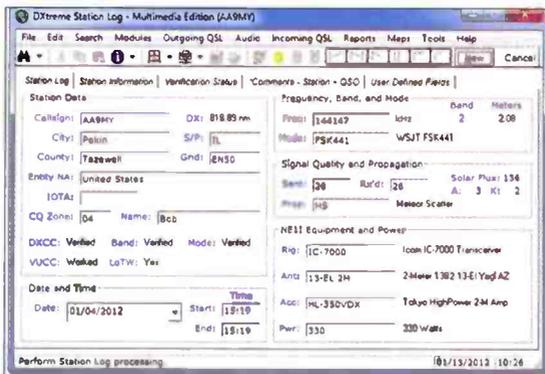
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New Station Logging Software Helps Track Your QSLs

Logging all of your QSLs on your PC should become a breeze with the introduction of DXtreme Station Log — Multimedia Edition™ Version 8.0. Developed by DXtreme Software™, DXtreme Station Log provides multimedia and advanced functions that enhance logging activities.

These new multimedia functions will let hams listen to their previous contacts and view QSLs when they browse their logs. The embedded audio facility lets hams create the audio archive, and the embedded QSL Imaging facility lets users scan, capture and view the physical and electronic QSLs they receive — including LoTW QSLs.



A screenshot of the Station Log Window in DXtreme Station Log — Multimedia Edition™ Version 8.0. *(Screenshot courtesy of DXtreme Software)*

In addition, some enhancements include:

- A window-based DXCC Analytics tool that analyze your DXCC standing.
- Create QSL and address labels for physical QSLs.
- Create signed *TQ8* files automatically for uploading to the LoTW server.
- Produce ADIF-based electronic QSLs for uploading to eQSL.cc.

Most of the action will take place in the Station Log Window so DXtreme added these features:

- Retrieves the frequency and mode from supporting rigs through integration with Afreet Omni-Rig software.
- Lets users perform a DX Atlas azimuth plot from their location to that of a logged station.
- Displays DXCC and grid/VUCC status information for logged stations.
- Indicates whether logged hams are users of LoTW.
- Retrieves and stores current and historic Solar Flux, A-Index, and K-Index values per station; also lets hams track the propagation mode used.
- Tracks QSLs sent and received.

Automating some of the hunt for contesters, The DX Spot Checker receives DX spot announcements from Telnet-based DX Cluster and DXSpider servers. As each spot arrives, the DX Spot Checker optionally queries the ham's Station Log database to let him or her know, by rich text or audio, whether a QSO is needed with the spotted station for a new or verified DXCC entity or band-entity. The DX Spot Checker also lets users:

- Perform a DX Atlas azimuth plot from their location to that of a spotted station.
- See whether a QSO is needed with a spotted station for a new or verified grid locator, which is ideal for VUCC tracking.
- Tell at a glance whether spotted hams are users of ARRL's LoTW.
- Tune their supported radio to the frequency of a selected spot through integration with Afreet Omni-Rig, available free over the Web.
- Quickly check their personal DXCC status information without having to leave the DX Spot Checker window.
- Send incoming spot announcements to others by email.
- Perform web-based callsign lookups on stations spotted.

To help users track the performance of their stations, the DXtreme Station Log offers a variety of reports and can output the information on the screen or to a printer.

In addition, the active report viewer enables users to view and sort reports within Internet Explorer, Safari or Chrome web browsers either locally or over the Internet.

An FTP facility is embedded in the software to let users upload their Active and Standard reports to the web automatically, where they can be accessed remotely.

Integration with Afreet DX Atlas lets users produce maps based on data in the Station Log database, including DXCC entity pin maps, grid square maps, and station pin maps.

If you're stuck at any point, DXtreme Station Log includes two help systems: Procedural Help and a Field-Level "What's This?" file.

DXtreme Station Log runs in 32- and 64-bit versions of Microsoft Windows 7, Vista and XP. DXtreme Station Log Version 8.0 will retail for \$89.95 in North America, \$93.95 elsewhere. **(VISIT: <<http://www.dxtreme.com>>)**

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BROADCASTING

World Band Tuning Tips

World News, Commentary, Music, Sports, And Drama At Your Fingertips

This listing is designed to help you hear more shortwave broadcasting stations. The list covers a variety of stations, including international broadcasters beaming programs to North America, others to different parts of the world, as well as local and regional shortwave stations. Many of the transmissions listed here are not in English. Your ability to receive these stations will depend on time of day, time of year, your geographic location, highly variable propagation conditions, and the receiving equipment used.

AA, FF, SS, GG, etc. are abbreviations for languages (Arabic, French, Spanish, German). Times given are in UTC, which is five hours ahead of EST, i.e. 0000 UTC equals 7 p.m. EST, 6 p.m. CST, 4 p.m. PST.

UTC	Freq.	Station/Country	Notes	UTC	Freq.	Station/Country	Notes
0000	17635	Adventist World Radio, Guam	Burmese	0330	7215	TWR, via South Africa	EE/Amharic
0000	6090	Caribbean Beacon, Anguilla		0400	9790	China Radio Intl, via Cuba	CC
0000	11665	Deutsche Welle, via Ascension Is.	GG	0400	9430	CVC-One Africa, Zambia	
0000	11780	Radio Nacional Amazonia, Brazil	PP	0400	5965	Radio Exterior Espana, Costa Rica	
0000	15720	Radio New Zealand International		0400	6185	Radio Educacion, Mexico	SS
0000	6165	Radio Nederland, Bonaire Relay	DD	0400	4950	Radio Nacional, Angola	PP
0000	13760	Voice of Korea, North Korea	EE/SS	0400	7200	Radio Omdurman, Sudan	AA
0000	13650	Voice of Korea, North Korea	CC	0400	6890	Radio Taiwan Intl, via Florida	SS
0030	6050	HCJB, Ecuador	Quechua	0400	7315	Radio France International	
0100	6025	Radio Amanecer, Dominican Rep.	SS	0400	4775	TWR, Swaziland	GG
0100	11710	Radiodifusion Argentina al Exterior		0400	4930	Voice of America Relay, Botswana	
0100	7250	Voice of Russia		0400	7325	Voice of Russia, via French Guiana	SS
0100	4755	Radio Imaculada Conceicao, Brazil	PP	0400	6010	La Voz de su Concencia, Colombia	SS
0200	5446.5	AFN/AFRTS, Florida	usb	0430	6165	RN Tchadienne, Chad	FF
0200	3250	Radio Luz y Vida, Honduras	SS	0500	6195	Radio Japan, via Ascension	SS
0200	6120	Islamic Republic of Iran Broadcasting		0500	4960	Voice of America Relay, Sao Tome	
0200	4985	Radio Brazil Central	PP	0500	6175	Voice of Vietnam, via Canada	VV/EE
0200	9305	Radio Cairo, Egypt	AA	0500	4770	Radio Nigeria	
0200	5040	Radio Havana Cuba	SS	0500	5005	Radio Nacional, Equatorial Guinea	SS
0200	3340	Radio Misiones Intl, Honduras	SS	0600	4990	Radio Apinte, Suriname	DD
0200	5954	Radio Republica, via Costa Rica	SS	0600	11725	Radio New Zealand International	
0200	4975	Radio Pacifico, Peru	SS	0700	5755	WTTW, Tennessee	
0200	7220	Voice of Russia, via Moldova	RR	0800	6160	CKZN, Canada	
0200	3320	Radio Sondergrense, South Africa	Afrikaans	0800	9635	Radio Mali	FF/vern
0300	11860	BBC, Seychelles Relay		0800	3290	Voice of Guyana	
0300	5025	Radio Rebelde, Cuba	SS	0800	6010	Radio Mil, Mexico	SS
0300	5755	KAIJ, Texas		0900	9595	Radio Nikkei, Japan	JJ
0300	9705	La Voix du Sahel, Niger	FF	0900	3310	Radio Mosoj Chaski, Bolivia	SS
0300	4780	Radio Djibouti	FF	0900	3375	Radio Municipal, Brazil	PP
0300	6110	Radio Fana, Ethiopia	Amharic	1000	4919	Radio Quito, Ecuador	SS, irregular
0300	5010	Radio Madagasikara, Madagascar	Malagasy	1000	4747	Radio Huanta 2000, Peru	SS
0300	15120	Radio New Zealand International		1000	2310	ABC No. Territories Service, Australia	
0300	4052.5	Radio Verdad, Guatemala	SS	1000	6135	Radio Santa Cruz, Bolivia	SS
0300	3350	REE, Spain, Costa Rica Relay	SS	1000	3280	La Voz del Napo, Ecuador	SS
0300	4976	UBC Radio, Uganda		1100	4775	Radio Tarma, Peru	SS
0300	12010	Voice of Russia	RR	1100	9770	KBS World Radio, South Korea	VV
0300	5050	WWRB, Tennessee		1100	9615	Radio Veritas Asia, Philippines	CC
0300	4790	Radio Vision, Peru	SS	1100	11840	TWR, Guam	VV
0300	5045	Radio Cultura do Para, Brazil	PP	1100	9865	Vatican Radio	SS
0300	3200	TWR, Swaziland	various	1200	7270	Wai FM, Malaysia	vern
0300	3985	Voice of Croatia		1200	15495	Adventist World Radio, via Germany	

UTC	Freq.	Station/Country	Notes	UTC	Freq.	Station/Country	Notes
1200	9570	China Radio Intl, via Cuba	CC	1900	9390	Radio Algerienne, Algeria, via France	AA
1200	6020	Radio Australia		1900	11615	Radio Nederland, via South Africa	
1200	9720	Radio Thailand		1900	9525	TWR, Swaziland	vern
1200	3365	Radio Milne Bay, Papua New Guinea	Tok Pisin	2000	11755	Adventist World Radio, via Germany	FF
1200	15460	Radio Romania International		2000	9410	BBC, Seychelles Relay	
1200	13665	Radio Rossii, Russia	RR	2000	11810	BBC, Ascension Is. Relay	
1200	11710	KCBS, North Korea	KK	2000	17680	CVC-La Voz, Chile	SS
1200	3290	Radio Central, Papua New Guinea	EE/Pisin	2000	7320	Islamic Republic of Iran Broadcasting	
1200	13380	Radio Free Asia, via Tajikistan	Tibetan	2000	11655	Radio Nederland, Madagascar Relay	
1200	15290	Radio Jordan	AA	2000	9535	Radio Thailand	
1200	3315	Radio Manus, Papua New Guinea	Tok Pisin	2000	15580	Voice of America Relay, Botswana	
1200	4750	Radio Republik Indonesia	II	2000	15580	Voice of America, via Bonaire	
1200	15235	Vatican Radio	CC	2100	9580	Africa Number One, Gabon	FF
1200	11860	BBC, via French Guiana		2100	7555	All India Radio	
1200	15450	Voice of Turkey	TT	2100	6280	All India Radio	
1200	5050	Beibu Bay Radio, China	CC	2100	11865	Deutsche Welle, Rwanda Relay	
1200	5765	AFN/AFRTS, Guam	usb	2100	11660	Radio Australia	
1200	3385	Radio East New Britain, PNG	Tok Pisin	2100	6155	Radio Belarus	
1300	6070	CFRX, Canada		2100	13650	Radio Canada International	FF
1300	7240	Radio Australia		2100	7530	Radio Tirana, Albania	
1300	9525	Voice of Indonesia		2100	7220	Radio Cefrafrique, Central Af. Rep.	FF
1330	17855	Radio Austria International	GG	2130	4965	CVC-One Africa, Zambia	
1400	9625	CBC Northern Service, Canada		2130	9705	Radio Ethiopia	Amharic
1400	11715	KJES, New Mexico		2200	11965	Adventist World Radio, Guam	II
1400	15080	Radio Cairo, Egypt	AA	2200	7811u	AFN/AFRTS, Florida	
1400	21695	Radio Jamahiriya, Libya		2200	9505	CVC-One Africa, Zambia	
1400	17895	Broad. Svc. of Kingdom Saudi Arabia	AA	2200	11730	Radio Havana Cuba	SS
1500	17800	Radio Jamahiriya, Libya		2200	12090	Far East Broadcasting, Saipan	VV
1500	7295	RTM, Malaysia		2200	7400	Radio Bulgaria	
1500	12025	Radio Free Asia, N. Marianas Relay	Mandarin	2200	7520	Radio Farda, USA, via Sri Lanka	Farsi
1500	7260	Voice of Russia		2200	11920	Radio Marti, USA	SS
1500	15120	Voice of Nigeria		2200	11670	Radio Nacional Venezuela, via Cuba	SS
1500	15345	RTV Marocaine, Morocco	AA	2200	6297	Radio Nacional, RASD, Algeria	SS/AA
1530	11905	Polish Radio, via Germany	various	2200	6240	Radio PMR, Pridnestrovie/Moldova	various
1600	9740	BBC, Singapore Relay		2200	15630	Voice of Greece	Greek
1600	15235	Channel Africa, South Africa	FF	2200	7315	WBCQ, Maine	
1600	11760	Radio Havana Cuba	SS	2200	9265	WINB, Pennsylvania	
1600	13720	Radio Kuwait	AA	2200	9720	Deutsche Welle, Rwanda Relay	GG
1600	15300	Radio France International	FF	2300	9740	BBC, Singapore Relay	
1600	17620	Radio Austria International	GG	2300	7285	BBC, Thailand Relay	
1600	15605	Radio France International		2300	9435	Far East Broadcasting, Philippines	II
1600	15140	Radio Sultanate of Oman	AA	2300	11910	Radio Japan	J
1600	15560	RDP International, Portugal	PP	2300	7245	Radio Mauritanie, Mauritania	AA
1600	11680	Voice of Turkey	Dari	2300	13680	Radio Nacional Venezuela, via Cuba	SS
1700	15420	BBC, via South Africa		2300	11920	HCJB, Ecuador, via Chile	SS
1700	9830	Islamic Republic of Iran Broadcasting	Swahili	2300	6055	Radio Exterior Espana, Spain	SS
1700	11850	Radio Taiwan Intl, via France		2300	15190	Radio Inconfidencia, Brazil	PP
1700	11765	Radio Exterior Espana, Spain	AA	2300	5995	Radio Mali	FF
1700	9955	WRMI, Florida		2300	9565	Radio Marti, USA	SS
1700	15465	RDP International, Portugal	PP	2300	11885	Radio Taiwan Intl, via Florida	SS
1800	7275	KBS World Radio, South Korea		2300	7440	Radio Ukraine International	UU
1800	9650	Polish Radio, via Austria		2300	7345	RT Tunisienne, Tunisia	AA
1800	15190	Radio Africa, Equatorial Guinea		2300	7255	Voice of Nigeria	EE/Hausa
1800	17850	Radio Exterior de Espana, via C. Rica	SS	2300	5960	Voice of Turkey	
1800	11704	Radio France International	FF	2300	9330	WBCQ, Maine	
1800	15215	Radio Jamahiriya, Libya	Hausa	2300	5920	WBOH, North Carolina	
1800	11810	Radio Jordan		2300	9370	WTCJ, North Carolina	
1800	7240	Voice of Russia		2300	7465	WWCR, Tennessee	
1900	9745	China Radio Intl, via Bonaire	CC				

In Review: The AOR ARL 2300 LAN Interface

By Ken Reiss, WPCØKR

“The ARL 2300 is a very cool application of computer and radio technologies coming together where the whole is much greater than the sum of the parts.”

The ARL2300 Ethernet Controller by AOR is a network interface that allows you to hook your AR 2300, Photo A, or AR 5001D receiver directly to a computer network, and then if you desire, to the Internet. While the radio selection is a bit narrow, if you have one of these high-end receivers, you’ll probably want this interface to go with it.

(IN DEPTH: See the AR 2300 receiver at <<http://bit.ly/A8owxO>>; the AR 5001D at <<http://bit.ly/Aor44e>>. – Ed.)

The interface provides over-the-network access and control to the basic functions of the receiver. All five VFOs are available, but no memory functions can be controlled. There is also a view of the spectrum display so you can find stations nearby.

Hardware Set Up Is a Snap

Hardware set up of the ARL 2300 is very simple, Photo B. You plug a cable from the AUX jack on your receiver to the receiver port on the LAN interface, and an audio connection from either the line out or speaker out jack. If you choose the line out jack, you will not have volume control through the software, but must rely on your computer’s audio settings to control volume. Finally, a LAN cable connects from the Ethernet port on the 2300 to an open port on your switch or router.

There is no option for wireless control, so you’ll need a wired network with an empty port. One other item that you’ll need to be aware of is

that a DIP switch on the receiver needs to be flipped so that power will be provided to the unit. There is a power jack on the rear panel, but a quick read of the manual explains why there’s no power supply included.

Bonjour . . .

Depending on the complexity of your local system, things may get interesting from there, or it may be very straightforward. In theory, the ARL 2300 will use the Bonjour protocol from Apple to make itself available on the network through a Web browser, Figure 1. This requires that you have the Bonjour software on your system. Macs, of course, will have it installed already. If you use Windows and the Safari browser, you’ll have it also. If you’re using something else — Internet Explorer or Firefox for instance — you may need to download and install an add-on before you can find the receiver.

One step that will make it much easier to find the unit is to use the Bonjour browser interface. I have used Safari since it first came out and never had a reason to use this, so I didn’t know it was there. Once I found it, everything was a piece of cake.

Click the bookmarks in Safari and then Bonjour in the collections. Look for the http on the Arlan-X device and follow the directions for logging in as the administrator. X will be replaced with a number representing the number of the device on your local network.

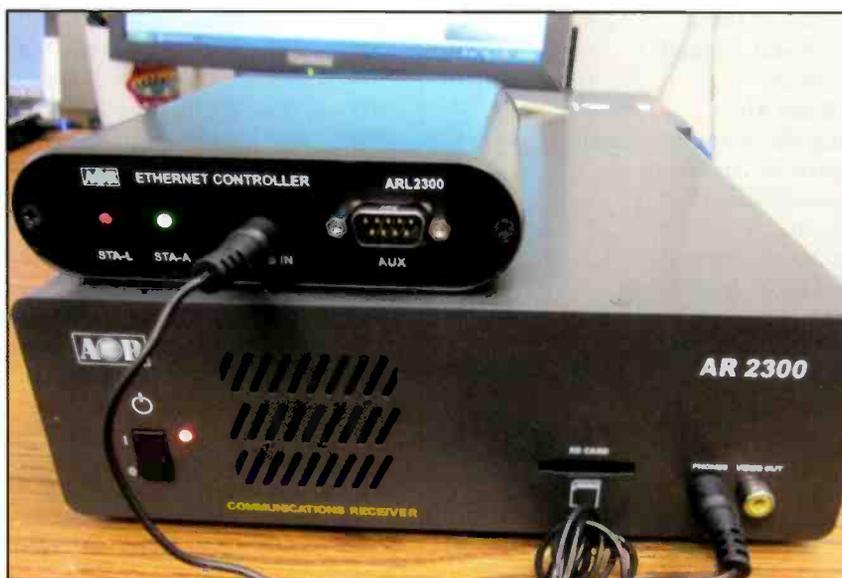


Photo A. The AOR ARL2300 Ethernet Controller provides connections for either the AR 2300 (shown) or the AR 5001D receiver and interfaces it to the Internet via the Ethernet. *(Courtesy of AOR)*



Photo B. Front and back views of the AOR ARL 2300 Ethernet Controller shows the simplicity of the unit. Its outward simplicity, though, covers a sophisticated interface that significantly enhances use of the AR 2300 and AR 5001D receivers. (Courtesy of AOR)

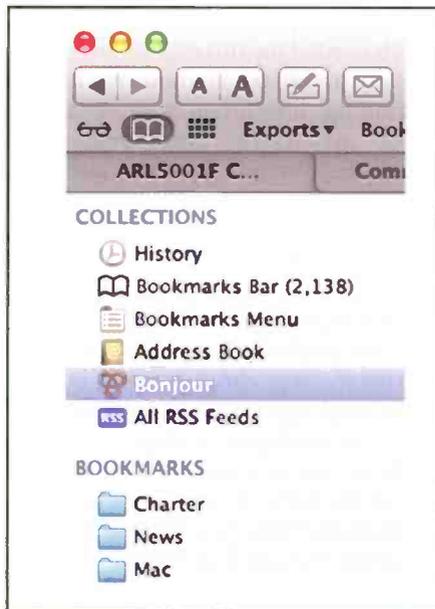


Figure 1. Finding the device through the Bonjour function on the browser makes for quick set up. Shown here is the Mac version of Safari, but the windows version is identical. The control software runs on the Mac too! (Courtesy of WPCOKR)

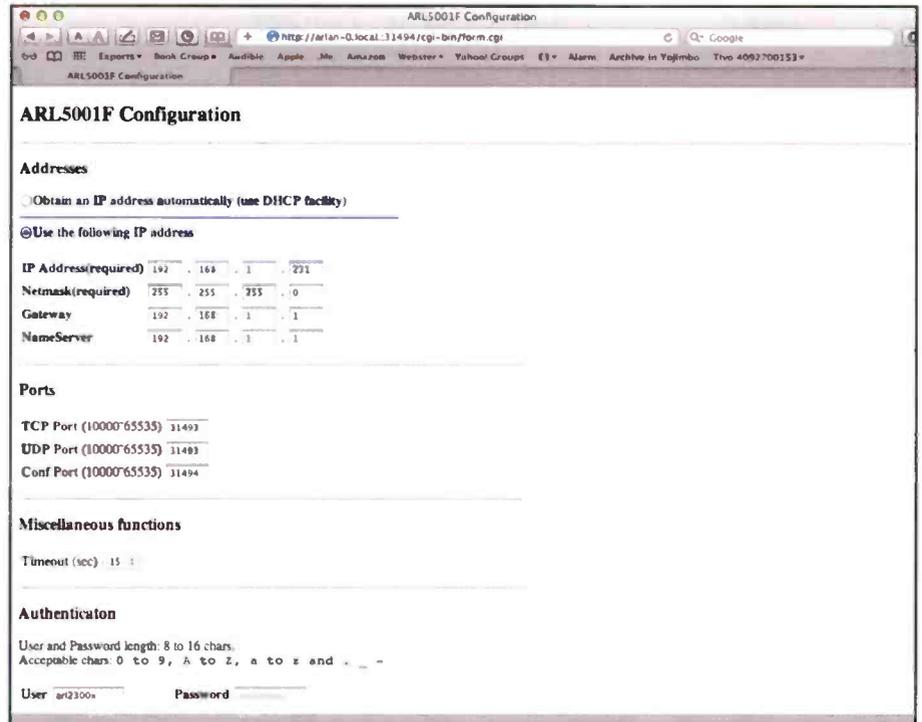


Figure 2. Configuring the settings on the ARL-2300 is done through a Web browser. Once you have the Bonjour connection established, set up a static IP address and ports for your network. (Courtesy of WPCOKR)

Once there, you'll need to configure a static IP address so you can reliably find the receiver with the control software, and a few other network settings, **Figure 2**. You'll also want to set a password and perhaps a new username from the default. Save your choices and you should be ready to go!

You may also run into firewall issues, as the ARL 2300 uses a few non-standard ports. Just remember that if at first you don't succeed, you're probably running about average and keep at it. It's worth it when you get it working!

If you want Internet access, you will probably need to configure your router to allow access to those ports, as well, or configure port forwarding to correctly redirect the incoming request to the receiver.

About the Software

Once you have the connection working, you get to use a remote-controlled receiver. Just being able to get the receiver

away from your computer has all kinds of advantages, but there's no reason it has to be local.

Even without memory control, the five VFOs of the receiver allow for a lot of flexibility. The control software is actually a Java applet, so it will run on any platform that supports Java including both Windows and Mac. This makes for a very versatile system! **Figure 3**.

The software also provides access to the receiver's SD card (if one is installed) for audio recording and playback. The limited experimenting I did with this worked quite well. The files are saved in standard WAV format, so it would be quite easy to transfer them to the computer from the card and convert them to another format or edit them with an audio program — an excellent add-on to any receiver!

If you don't have access to the receiver's SD card slot, however, all is not lost. You can record the audio in real time to the PC as well. This also creates standard WAV files stored on your computer that you can then playback or edit as desired.

It would be great if you could transfer the recordings back from the receiver's card so that unattended recordings could be made at remote locations, but the basic software does not allow that function.

The supplied application is relatively

simple, but certainly adequate for the task. It provides excellent remote control and monitoring capabilities, but no sophisticated functions like scanning or memory manipulation.

There is actually a second model, the

ARL 5001F, which is the unit we tested, **Figure 4**. The ARL5001F is specifically made for the AR 5001D receiver and includes the ability to control a rotator through the connection on the front panel. The jack is labeled Rotator rather than AUX, but the units appear to be identical outside of that. The rotator recommended is a Yaesu G-1000DXA, <<http://bit.ly/AoLf46>>, along with the GS-232B interface, <<http://bit.ly/x75tFQ>> for remote computer control. The software then provides a separate window for rotator control.

According to AOR, the 5001F was made specifically for the FAA which needed the directional control of a rotator and remote monitoring to help in finding interference sources that affect air traffic communications. Pretty slick system for that, and with enough remote stations in an area, I'm sure it's very effective! If there were a network of these worldwide, it would make for some very interesting DXing possibilities!

If you get the chance, even if you don't own the receiver, check this thing out. It's a very cool application of computer and radio technologies coming together where the whole is much greater than the sum of the parts. If you have one of the required receivers, you'll probably want to put this on your wish list!

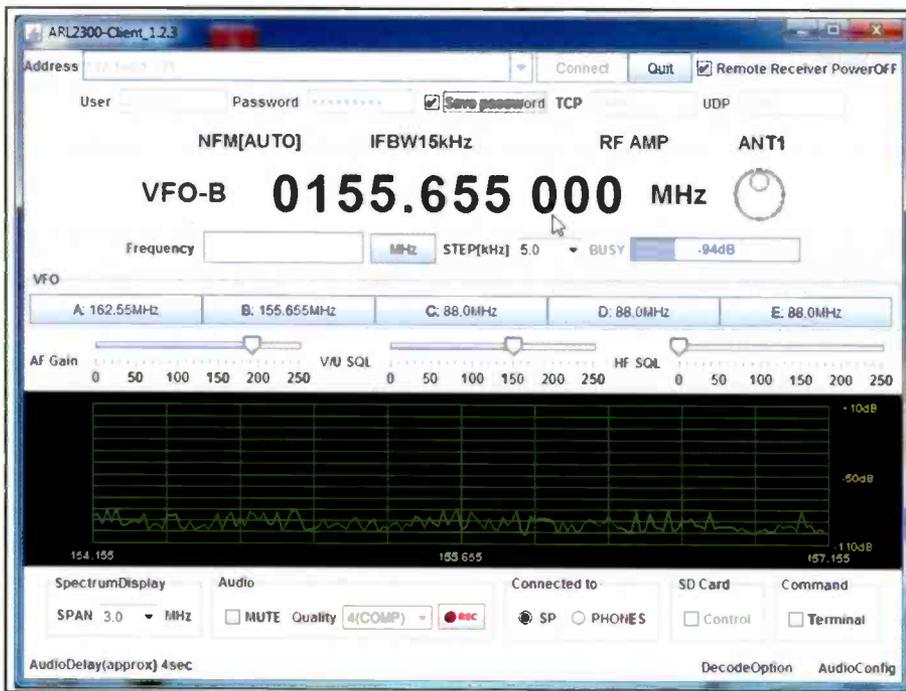


Figure 3. The Control screen of the ARL 2300 is slightly different and a bit more compact than the ARL-5100F. The 5100F can use either program that you prefer. (Courtesy of WPCOKR)

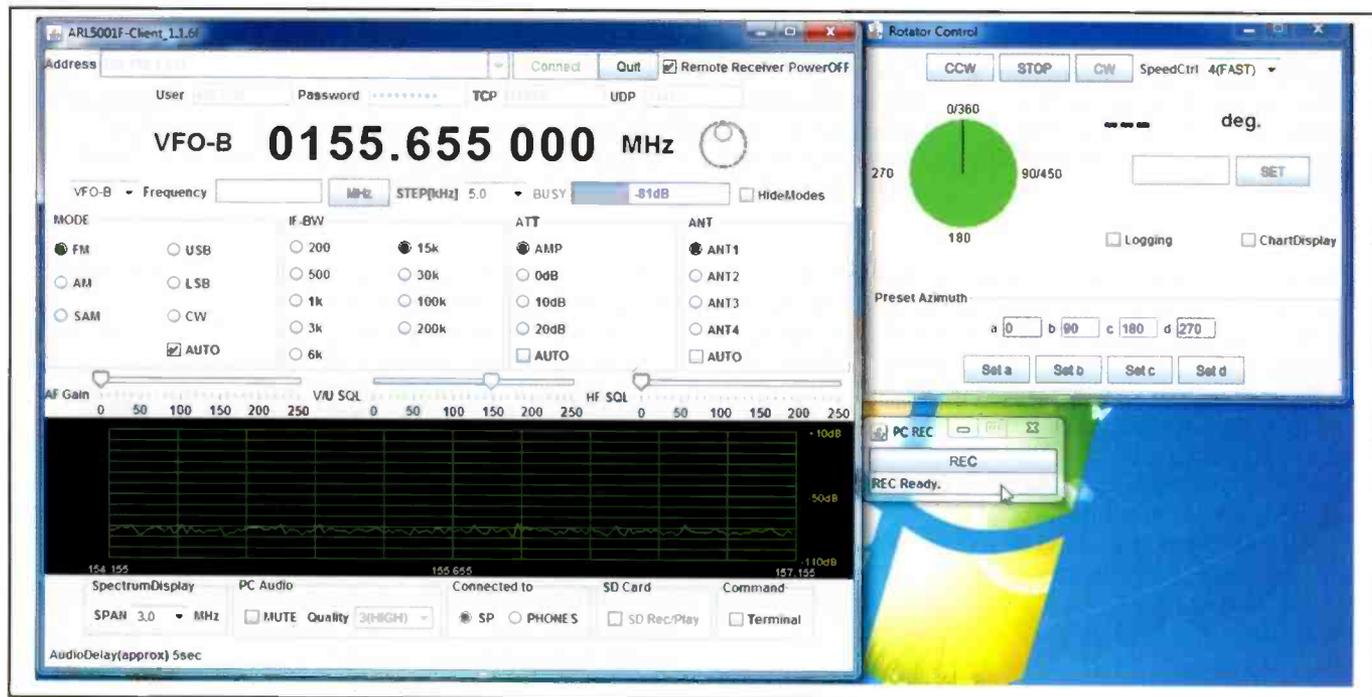


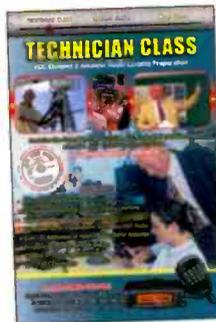
Figure 4. The ARL 5100F control screen features several windows for controlling the receiver, audio recording and the rotator control. Mode and settings are more immediately visible, but there is an option to hide them once you have them set. (Courtesy of WPCOKR)

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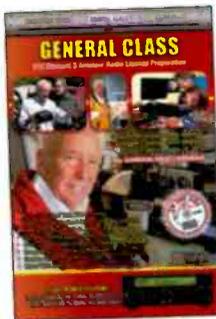
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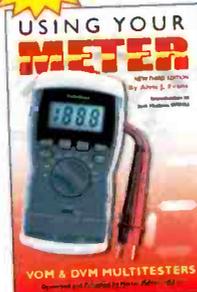


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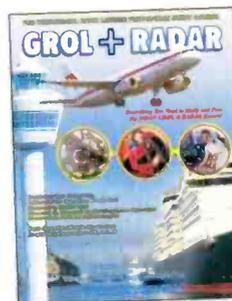
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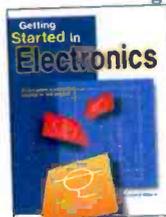
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Deep in the Heart of Spring DX Season

by Tomas Hood, NW7US,
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“The improvement in propagation is most noticeable on long circuits between the northern and southern hemispheres.”

As we move into spring in the Northern Hemisphere we experience great DX openings from around the world on the high frequencies (HF). This is because the sun is mostly overhead over the equator, creating equal day and night periods in both hemispheres.

The Vernal Equinox on March 20, 2012 marked the day when the hours of daylight and darkness are about equal around the world. This creates an ionosphere of similar characteristics throughout more of the world than during the rest of the year — when it is summer in one hemisphere and winter in the other, and there are extreme differences in the ionosphere. This equalization of the ionospheric conditions taking place during the equinoctial periods — autumn and spring — is responsible for optimum DX conditions.

The first of the two yearly DX seasons starts late in March and lasts through late April. The improvement in propagation is mostly noticeable on long circuits between the northern and southern hemispheres. During this season conditions are also optimal for long-path as well as short-path openings, and during gray-line twilight periods associated with sunrise and sunset. (*IN DEPTH: See the March 2012 Propagation Corner for a primer on gray-line propagation. — Ed.*)

Auroral Season

Spring is also the season of aurora borealis. Geomagnetic storms that ignite auroras occur more often during the months around the autumn-



Figure 1. Astronauts on the International Space Station used a digital camera to capture several hundred photographs of the Aurora Australis while passing over the Indian Ocean on September 17, 2011. You can view the video of the Aurora Australis taken by the crew of Expedition 29 at <<http://g.nw7us.us/yYcuLd>>. VHF radio waves can be propagated off of the aurora and the aurora ovals at the North and South pole during an active auroral event (see text). (Courtesy of NASA-ISS)

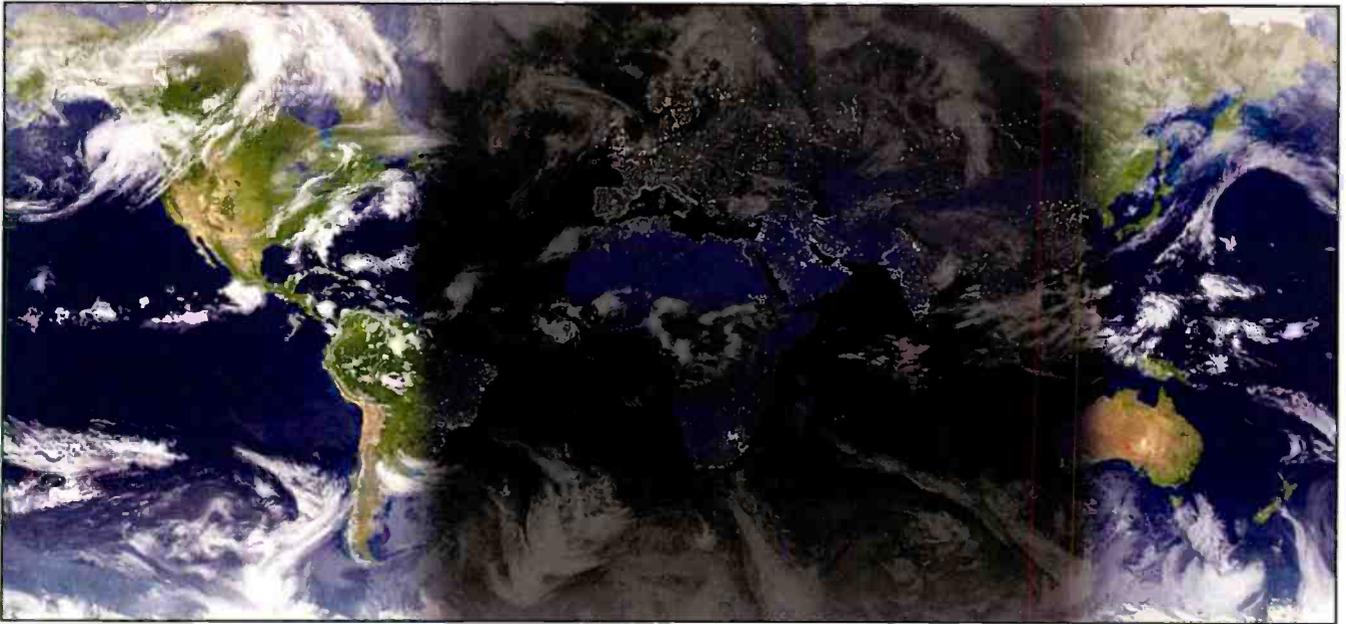


Figure 2. This Mercator projection of the world illustrates the equal distribution of sunlight and darkness during the equinox. Twice a year, during the equinoctial season, this distribution creates a “balanced” ionosphere (see text). (Courtesy of NASA and composition by <<http://www.die.net/earth/>>.)

nal and vernal equinoxes. This seasonal effect has been observed for more than 100 years.

Scientists are still puzzled about all of the reasons, but they have a wealth of research from which they’ve developed models to help understand the phenomena.

What is the Aurora?

Aurora is a direct result of solar plasma interacting with gasses in the upper atmosphere. It is common to see aurora during active to severe geomagnetic storms. Geomagnetic storms develop when strong gusts of solar wind or coronal mass ejections (CMEs) hit the Earth’s magnetosphere in just the right way.

The solar wind always has a magnetic component, known as the Interplanetary Magnetic Field (IMF), which is always present, expanding out from the Sun. The solar wind is constantly flowing out from the Sun, as well, in a way that is much like the way water sprays out of a rotating yard sprinkler. This is known as the Parker Spiral, <<http://bit.ly/xiBrIY>>.

The Earth, in its yearly orbit around the Sun, dips in and out of the magnetic structures of the IMF, and is always bombarded with the solar wind.

At times, the solar wind will become elevated in speed, density and even temperature, due to such solar phenomenon as coronal holes and coronal mass ejections. When high-speed solar wind, or a CME crashes into the Earth’s magnetosphere, if the magnetic structure of the solar wind is aligned properly with the Earth’s magnetic field, solar electrons and protons rain into the Earth’s atmosphere, riding the magnetic field lines down to each pole.

Gasses in the atmosphere start to glow under the impact of these solar particles. Different gasses give out various colors. Think of a neon sign and how the plasma inside the glass tube, when excited, glows with a bright color. In the same way, the solar particles cause the atmospheric gases to glow, forming the beautiful aurora; oxygen emissions glow green or brownish-red, nitrogen emissions are blue or red. (**GALLERY:** To see mul-

tiple photographs of aurora, visit, <<http://bit.ly/zdkoth>>. – Ed.)

These precipitating solar particles mostly follow the magnetic field lines that run from Earth’s magnetic poles, and are concentrated in circular regions around the magnetic poles called “auroral ovals.” These bands expand away from the poles during magnetic storms. The stronger the storm, the greater these ovals will expand. Sometimes they grow so large that people at middle latitudes, like California, can see these “Northern Lights.”

In the early 1970s scientists recognized a connection between the component of the interplanetary magnetic field that lies along Earth’s magnetic axis (known as B_z) and Earth’s changing seasons:

- The average magnitude of B_z is greatest each year in early spring and autumn.
- B_z is one of three vector measurements in the three-dimensions of the solar wind.
- The B_z increases in strength during spring and autumn due to the Earth’s position in relationship with the Sun, including the angle of Earth’s polar axis in this relationship.
- Earth’s magnetic dipole axis is most closely aligned with the Parker Spiral in April and October. As a result, southward and northward excursions of B_z are greatest then. This is why aurora is most likely and strongest during the equinoctial months.

When elevated solar wind, perhaps elevated by a coronal mass ejection, interacts with the magnetosphere, what is the mechanism that allows the solar particles into our atmosphere? At the magnetopause — the part of our planet’s magnetosphere that fends off the solar wind — Earth’s magnetic field points north. If the IMF tilts south (i.e., B_z becomes large and negative) it can partially cancel Earth’s magnetic field at the point of contact.

This causes the two magnetic fields (Earth’s and the IMF) to

Optimum Working Frequencies (MHz) - For April 2012 - Flux = 136, Created by NW7US

UTC	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
TO/FROM US WEST COAST																								
CARIBBEAN	27	27	26	25	22	20	19	17	16	15	14	13	13	16	19	21	23	24	25	26	27	27	28	28
NORTHERN SOUTH AMERICA	35	34	34	31	28	26	24	22	20	19	18	17	17	19	23	26	28	30	31	32	33	34	35	35
CENTRAL SOUTH AMERICA	35	32	29	26	24	22	21	20	18	18	17	19	18	21	26	29	31	33	35	36	36	36	36	36
SOUTHERN SOUTH AMERICA	33	30	26	24	22	21	20	18	18	17	16	16	17	18	21	25	28	31	32	34	35	36	37	35
WESTERN EUROPE	18	15	12	11	15	18	13	12	11	11	13	18	20	21	22	23	23	23	22	22	21	20	19	19
EASTERN EUROPE	11	11	11	10	15	18	18	16	12	11	15	18	19	20	21	22	22	21	21	20	18	17	12	12
EASTERN NORTH AMERICA	31	30	29	27	24	22	20	19	17	16	15	15	17	22	25	27	29	30	31	31	32	32	32	31
CENTRAL NORTH AMERICA	17	17	16	15	14	13	12	11	10	9	8	8	10	13	14	15	16	17	17	17	18	18	17	17
WESTERN NORTH AMERICA	9	9	9	8	8	7	7	6	6	5	5	4	4	4	6	7	8	8	9	9	9	9	9	9
SOUTHERN NORTH AMERICA	29	28	28	27	25	23	21	19	18	16	15	14	14	15	19	22	24	25	27	28	28	29	29	29
HAWAII	24	24	24	24	23	22	20	19	17	16	14	14	13	12	12	14	16	18	20	21	22	23	24	24
NORTHERN AFRICA	16	15	14	13	13	12	13	12	11	11	17	20	21	22	23	24	24	25	24	23	21	19	18	18
CENTRAL AFRICA	20	18	17	16	15	16	13	12	11	11	12	18	20	21	22	23	24	24	25	25	25	25	23	21
SOUTH AFRICA	22	20	19	18	17	17	18	16	15	15	14	14	20	24	26	28	29	30	30	30	31	28	26	24
MIDDLE EAST	13	12	12	13	18	19	17	14	12	11	15	18	19	21	22	22	23	23	22	20	18	16	15	14
JAPAN	25	25	25	24	24	23	21	19	15	14	13	13	12	12	11	14	13	12	12	16	19	21	23	24
CENTRAL ASIA	25	25	25	24	24	23	21	19	15	14	13	13	12	11	11	18	20	18	17	16	15	16	21	24
INDIA	20	20	20	20	21	20	19	18	16	12	11	15	15	11	11	10	10	10	13	16	17	18	19	19
THAILAND	21	23	24	24	23	22	21	19	16	13	13	12	12	11	15	19	21	20	19	18	17	16	15	17
AUSTRALIA	33	35	36	37	37	35	34	31	28	26	24	22	21	19	18	18	19	18	17	17	19	24	28	31
CHINA	23	24	24	24	23	22	21	19	16	13	12	12	11	11	16	15	14	13	12	12	12	18	20	22
SOUTH PACIFIC	37	37	37	37	36	35	33	30	26	24	22	21	19	18	17	17	16	16	16	25	30	33	35	37
TO/FROM US MIDWEST																								
CARIBBEAN	31	30	29	27	25	23	21	19	18	17	16	15	16	20	23	25	27	28	29	30	31	31	31	31
NORTHERN SOUTH AMERICA	32	32	31	28	25	23	21	20	18	17	16	16	15	19	22	24	26	28	29	30	31	31	32	32
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SOUTHERN SOUTH AMERICA	33	29	26	24	22	21	20	19	18	17	16	17	21	24	27	30	31	33	34	35	36	36	35	35
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EASTERN NORTH AMERICA	22	21	20	19	17	16	15	13	13	12	11	11	14	16	18	20	21	22	22	23	23	23	23	23
CENTRAL NORTH AMERICA	10	10	10	9	8	7	6	6	5	5	5	7	8	9	9	10	10	10	11	11	11	11	10	10
WESTERN NORTH AMERICA	17	17	17	16	15	13	12	11	10	10	9	9	8	10	13	14	15	16	17	17	18	18	18	18
SOUTHERN NORTH AMERICA	20	20	19	18	17	16	14	13	12	11	11	10	10	12	14	16	17	18	19	20	20	20	20	20
HAWAII	28	29	29	28	27	25	23	21	19	18	17	16	15	14	14	16	19	22	24	25	26	27	28	28
NORTHERN AFRICA	21	19	18	16	15	14	13	13	12	12	15	19	21	23	24	25	25	26	26	26	26	25	25	23
CENTRAL AFRICA	20	19	17	16	15	14	13	12	12	11	15	19	21	23	24	25	25	26	26	26	26	25	24	22
SOUTH AFRICA	22	20	19	18	17	17	17	17	17	18	21	26	29	32	34	35	37	35	33	31	28	26	23	23
MIDDLE EAST	14	13	12	12	14	13	12	12	11	11	17	20	21	23	24	24	25	24	23	21	19	17	16	15
JAPAN	25	24	24	23	22	20	16	14	13	13	12	12	11	15	14	13	13	12	12	16	19	22	23	24
CENTRAL ASIA	25	24	23	23	21	19	16	14	13	12	12	11	12	18	20	21	20	18	17	16	15	16	21	24
INDIA	14	16	17	18	19	17	12	12	11	11	15	18	19	19	18	17	16	13	11	11	11	10	10	10
THAILAND	20	23	23	22	21	19	16	13	12	11	11	17	20	21	22	23	21	19	18	17	16	15	17	17
AUSTRALIA	34	35	37	36	35	33	30	27	25	23	21	20	19	18	19	20	19	18	17	17	20	25	29	32
CHINA	23	24	23	22	21	19	16	13	12	12	11	11	17	19	15	14	13	13	12	12	11	17	20	22
SOUTH PACIFIC	37	37	37	36	35	33	30	27	24	22	21	19	18	17	17	16	16	15	20	28	32	34	36	37
TO/FROM US EAST COAST																								
CARIBBEAN	25	24	23	21	19	17	16	15	14	13	12	12	15	17	19	21	22	23	24	24	25	25	25	25
NORTHERN SOUTH AMERICA	28	28	26	24	22	20	18	17	16	15	14	14	15	18	21	22	24	25	26	27	28	28	28	28
CENTRAL SOUTH AMERICA	34	30	28	25	23	22	20	19	18	17	17	18	22	25	28	30	31	33	34	35	35	36	35	35
SOUTHERN SOUTH AMERICA	32	29	26	24	22	21	19	18	17	17	16	16	20	24	26	29	31	32	33	34	35	36	36	34
WESTERN EUROPE	14	13	12	12	11	11	12	11	11	14	18	20	21	23	23	24	24	24	23	23	22	21	19	17
EASTERN EUROPE	15	12	11	13	14	13	12	12	11	16	19	21	23	23	23	23	23	23	22	22	21	20	19	17
EASTERN NORTH AMERICA	11	10	10	9	8	7	7	6	6	5	5	6	7	8	9	10	10	10	11	11	11	11	11	11
CENTRAL NORTH AMERICA	23	22	21	20	18	16	15	14	13	12	12	11	15	17	19	21	22	23	24	24	24	24	24	24
WESTERN NORTH AMERICA	31	30	29	27	24	22	21	19	18	17	16	15	17	22	25	27	29	30	31	32	32	32	32	32
SOUTHERN NORTH AMERICA	25	24	23	22	20	18	17	15	14	13	13	12	13	16	19	20	22	23	24	24	25	25	25	25
HAWAII	31	31	30	28	26	24	22	20	19	17	16	15	15	16	16	15	18	21	23	25	27	28	30	30
NORTHERN AFRICA	22	20	19	18	16	16	15	16	15	16	21	24	27	29	30	31	32	32	31	30	29	26	26	24
CENTRAL AFRICA	21	19	18	17	16	15	17	16	15	16	21	24	27	29	30	31	31	31	31	30	29	27	24	22
SOUTH AFRICA	22	20	19	18	17	17	17	20	19	18	19	23	27	29	31	33	35	36	35	33	30	28	25	23
MIDDLE EAST	18	17	16	15	15	14	13	12	12	15	19	21	23	24	25	25	26	26	26	26	23	21	20	20
JAPAN	24	23	21	19	16	15	14	13	12	12	11	16	16	15	14	13	12	12	11	16	20	22	23	24
CENTRAL ASIA	23	22	21	19	15	14	13	12	12	11	14	18	21	22	23	22	20	18	17	16	15	15	20	23
INDIA	11	10	10	10	14	13	12	12	11	14	19	21	21	21	21	20	20	19	18	16	13	12	11	11
THAILAND	19	21	19	16	14	13	12	12	11	12	18	20	22	23	24	24	24	22	20	19	17	16	15	15
AUSTRALIA	35	36	36	34	32	29	26	24	22	21	19	18	18	22	21	20	19	18	17	16	21	26	30	32
CHINA	23	22	20	17	14	13	13	12	11	11	17	20	21	20	17	14	14	13	1					

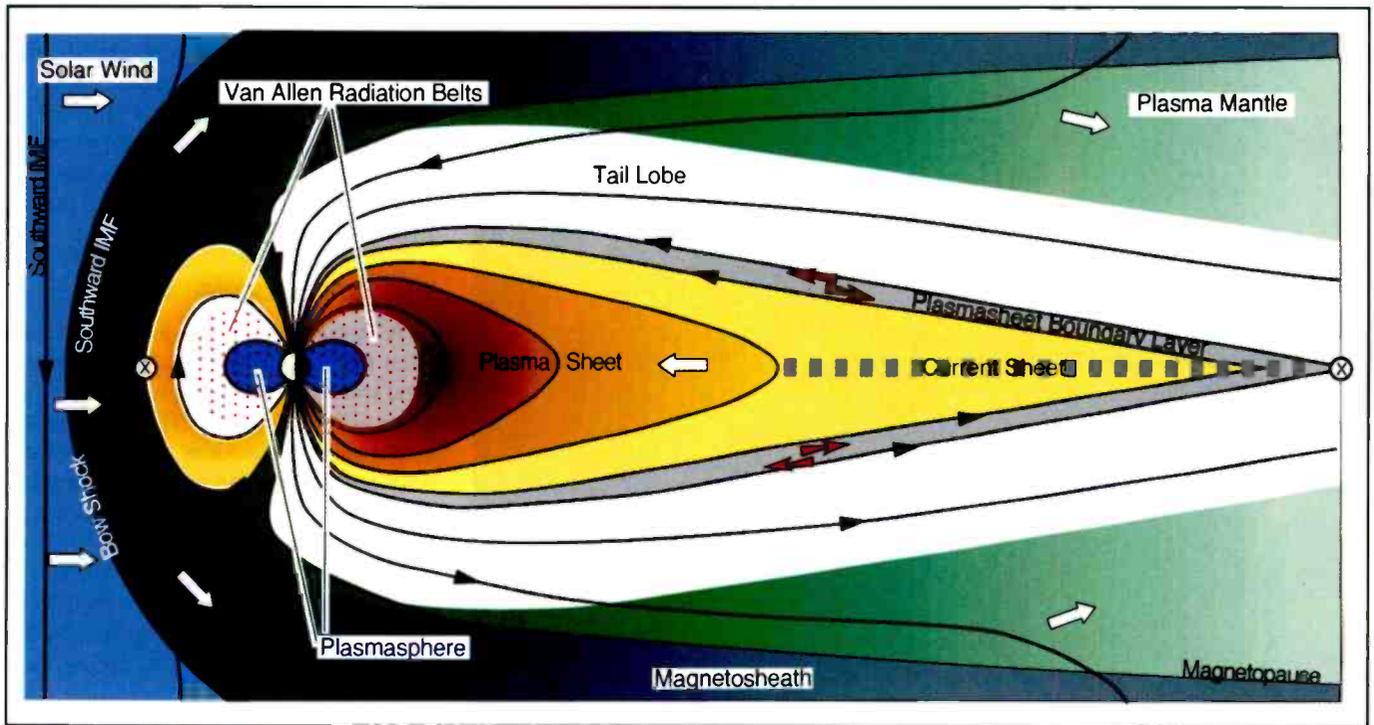


Figure 3. A CME is so powerful that when one hits the Earth, it will disrupt the Earth's magnetosphere, compressing it on the day side and extending the night-side tail. When the magnetosphere reconnects on the night side, it creates trillions of watts of power that is directed back toward the Earth's upper atmosphere. This process can cause particularly strong aurora also known as the "Northern Lights" or "Aurora Borealis" (in the Northern Hemisphere), and the "Southern Lights," or "Aurora Australis" (in the Southern Hemisphere). CME events, along with solar flares, can disrupt radio transmissions, cause power outages (blackouts), and cause damage to satellites and electrical transmission lines. (Courtesy of Rice University – adapted from T.W./NASA).

link, just as you'd see two bar magnets linking: One magnet's south-pole connects with the other's north-pole. This linking creates magnetic field lines from Earth's poles directly into the solar wind.

A south-pointing B_z opens a window, through which plasma from the CME can reach into the Earth's atmosphere, bombarding the gasses of the upper regions and creating the aurora.

When we are in the peak of a solar cycle and in the year or so after a peak, solar activity is very high. The amount of solar wind and plasma is large at this point in the cycle, causing very dramatic and spectacular auroral light shows. You can view a fascinating video that explains all of this by browsing to the video, "The Fantastic Aurora: Inside the Sun to Earth's Poles" <<http://g.nw7us.us/xqKg2c>>.

Look for aurora-mode propagation when the planetary K index (K_p) rises above 4, and certainly look for visual aurora after dark when the K_p rises above 6. The higher the K_p , the more likely you may see the visual lights. This data, and special aurora-specific links can be found at <<http://sunspotwatch.com/>>.

You don't have to see the aurora to hear its influence on propagation. Listen for

stations from over the poles that sound raspy or fluttery. Point your antenna toward the aurora, and listen for VHFDX. Signals will be refracted off the auroral oval because of the highly ionized E-region in which the aurora is active. (IN DEPTH: For a more in-depth technical look at aurora, be sure to check out the Winter Edition 2012 of CQ VHF magazine, <<http://www.cq-vhf.com/>>. – Ed.).

On the higher HF bands, sometimes aurora will enhance a propagation path at certain frequencies. At other times it will degrade the signals. Sometimes signals will fade quickly, and then come back with great strength. These ionized areas in the auroral oval ebb and flow, so the ability to refract changes, sometimes quickly. I've observed the effect of aurora and associated geomagnetic storminess even on lower HF frequencies.

High Frequency Propagation

April is a hot month for DX. The seasonal change plays out on HF with activity moving up from 41 meters and down from 11 meters. Propagation on the higher HF frequencies (19 through 11 meters)

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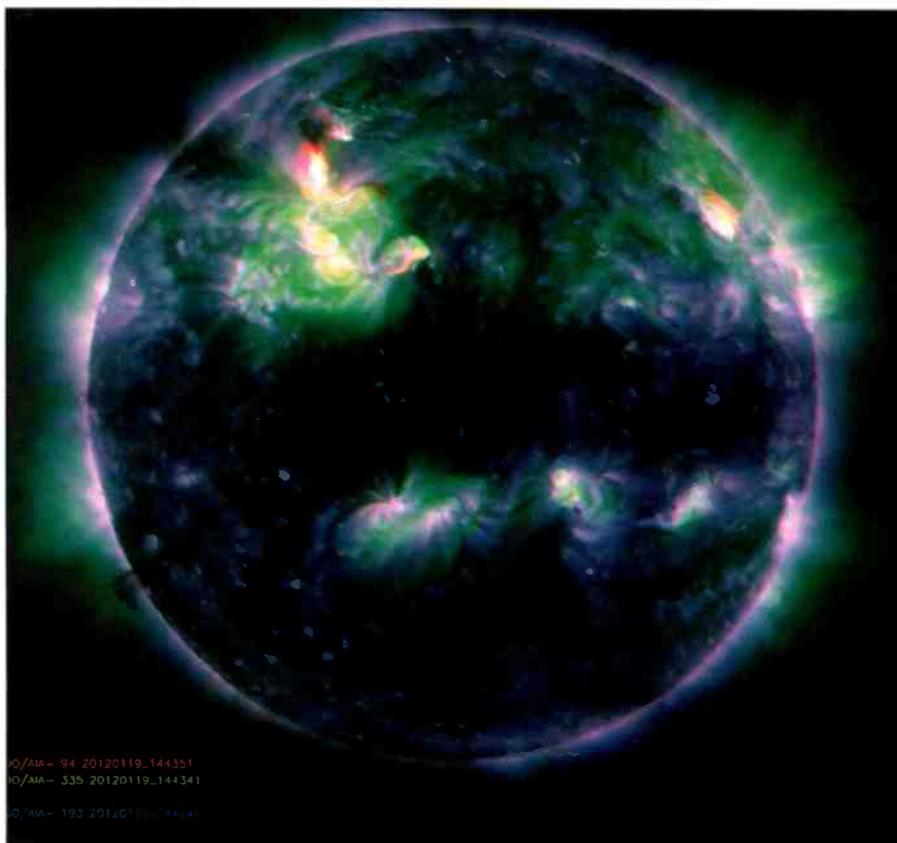


Figure 4. A composite view of the Sun at the 94-, 193-, and 335-Angstrom wavelengths reveals two X-ray flare events. The larger, brighter X-ray flare on the left was a long-duration magnitude M3.2 X-ray flare that lasted more than several hours, but peaked at 1608 UTC on January 19, 2012. A coronal mass ejection was released by the flare (see the video at <http://g.nw7us.us/w7SHNQ>), causing a geomagnetic disturbance several days later. During the flare, the energy caused a "Sudden Ionospheric Disturbance" (SID) on the sunlit side of the Earth (mostly over North and South America). This "radio blackout" extended up into the upper end of the shortwave spectrum between 20 and 30 MHz, causing most shortwave radio communication to go quiet since the radio waves were absorbed by the highly energized D-region. (Courtesy of SDO/AIA)

begins to suffer late in April and into the summer months due to lower MUFs (Maximum Usable Frequencies) in the Northern Hemisphere.

MUFs peak very late in the day during summer. Summertime MUFs are lower due to solar heating which cause the ionosphere to expand. An expanded ionosphere produces lower ion density, which results in lower MUFs.

The month of April still provides a good mix between east and west propagation and the strengthening of north and south paths. Short-path propagation between countries in the Northern Hemisphere will drop out significantly on shortwave as we move into the late spring and summer months. While there will be east-west path openings in the Northern Hemisphere, expect a steady shift to more north and south propagation.

April and May are fall months in the Southern Hemisphere making long-path DX possible. Short-path propagation from South America, South Pacific, and other areas south of the equator will be strong and reliable when open. These trans-equatorial path openings are happening more often on the higher frequencies because the current Solar Cycle 24 is moving steadily toward the peak — expected between 2013 and 2015.

During April, the 15-meter amateur radio band, and 16-meter international broadcast band may offer occasional 24-hour DX to various parts of the world, with both short- and long-path openings occurring, sometimes at the same time!

If you hear a lot of echo on a signal, you might be beamed in the wrong direction. Try the opposite azimuth. Thirty-

one through 19 meters are more stable as nighttime bands, with propagation following gray-line and nighttime paths.

Low-band propagation is still hot on 41 meters, with Europe in the evening, and Asia in the mornings. Occasional DX openings will occur on 90 and 75 meters around sunrise.

VHF and Above

As we've explained, auroral activity often occurs during periods of geomagnetic storms when the K_p is above 5. This storm activity degrades HF radio communications, but, provides possible aurora activity. April should provide a fair number of days with such geomagnetic activity and related aurora. It is good to check the various VHF DX spotting websites.

Many types of propagation modes can appear once or twice during this month, besides aurora. Combination propagation modes involving F_2 -propagation, and aurora, for instance, may be possible on VHF this month, making for some strange and exciting openings.

There is an increase in trans-equatorial (TE) propagation on VHF, as well. On days of high solar flux, there might be F_2 -mode VHF openings between stations located on either side of the Equator. It might also be possible this month to see trans-oceanic F_2 -mode VHF openings. Check the spotting websites.

There are times when TE and longer-range, F_2 -layer propagation modes will link, providing strong DX openings on VHF between North America and New Zealand, Australia, or other areas.

Current Solar Cycle 24 Progress

The Royal Observatory of Belgium reports that the monthly mean observed sunspot number for December 2011 is 73.0, down from November's 96.7. This is a sharp decline from the steadily rising activity over the previous three months, but is typical of the fluctuation expected during the rise of any solar cycle.

The lowest daily sunspot value of 38 was recorded for December 15. The highest daily sunspot count was 108 on December 4. The 12-month running smoothed sunspot number centered on June 2011 is 53.2, up from May's 47.6. A smoothed sunspot count of 83, give or take about 9 points, is expected for April 2012.

The Dominion Radio Astrophysical Observatory at Penticton, BC, Canada, reports a 10.7-cm observed monthly

mean solar flux of 141.2 for December 2011, down from November's 153.1. The 12-month smoothed 10.7-cm flux centered on June 2011 is 110.9, up from May's 105.6. The predicted smoothed 10.7-cm solar flux for April 2012 is 136, give or take about 9 points.

The observed monthly mean planetary A-Index (A_p) for December 2011 is 2, and for November 2011 is 3 — adjusted down from the reported 4 as published last month.

The 12-month smoothed A_p index centered on June 2011 is 7.3, much the same as the previous few months. Expect the overall geomagnetic activity to be varying greatly between quiet to stormy during April. Refer to the Last Minute Forecast published in *CQ* magazine or on the author's website. <<http://sunspotwatch.com>>, for the outlook on what days this might occur.

I'd Like to Hear From You

I welcome your thoughts, questions and experiences regarding this fascinating science of propagation. You may email me, write me a letter, or catch me on the HF amateur bands.

On Twitter, please follow @NW7US (and if you wish to have an hourly automated update on space weather conditions and other radio propagation-related updates, follow: @hfradiospacewx).

I invite you to visit my online propagation resource at <<http://sunspotwatch.com/>>, where you can get the latest space data, forecasts and more, all in an organized manner.

If you are on Facebook, check out <<http://www.facebook.com/spacewx.hfradio>> and <<http://www.facebook.com/NW7US>>.

Speaking of Facebook: Check out the *Popular Communications* magazine fan page at <<http://www.facebook.com/PopComm>>. This is a great place for the *Popular Communications* community to participate and share information, tips, DX spots, and photos of your antennas, radios, or your excursions into the field with your radio gear for that DX hunting trip.

Until next month,

73 de NW7US, Tomas Hood
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Covering the Media Coverage

On the 'Street Beat' During the 2012 New Hampshire Presidential Primary

by Bruce A. Conti,
WPC1CAT
<contiba@gmail.com>

"To see so much media from around the world gathered in one place underscores what an amazing interest there is in our democratic process."

Every four years, the world watches a singular display of democracy in action as the U.S. presidential election process unfolds. It's truly an international news affair covered by familiar major media outlets such as ABC, Associated Press, BBC, CBS, C-Span, Fox, NBC, and PBS, plus networks lesser known to the American audience such as Al Hurra, Dunya, France 24, NHK, RTVE, Star, TV2 Danmark, and YTN.

To see to this much media from around the world gathered in one place underscores what an

amazing interest there is in our democratic process. This was the scene as it happened when the primary season was getting underway in January from New Hampshire, **Photo A**.

Live From the Granite State

The atmosphere was electric in the days leading up to the election as media from around the world converged upon the city of Manchester, New Hampshire to cover the *first in the nation* presidential primary.



Photo A. Television news vans with telescoping microwave antennas were a common sight during the New Hampshire Presidential Primary in January. (Photography courtesy of WPC1CAT)



Photo B. CBS News constructed a stand-alone broadcast studio outside the Radison Hotel, while a CBS Radio Affiliates newsroom was maintained inside.



Photo C. From the Associated Press and ABC News, to BFMTV France, NHK Japan, PBS Newshour, Phoenix Hong Kong, RTVE Spain, TeleCanal+ France, and TV Tokyo — there were news organizations everywhere.

An international media village assembled on the grounds of the downtown Radisson Hotel to cover the event. CBS News was the most dominant presence, constructing a stand-alone broadcast studio outside, **Photo B**, while a CBS Radio Affiliates newsroom was maintained inside the hotel.

The Associated Press and ABC News operated from a media tent outdoors and a newsroom indoors, **Photo C**, where a num-



Photo D. New York-based CBS News correspondent Manuel Gallegus was one of the many reporters on the “street beat” looking for stories.



Photo E. Melinda Davenport reported for the local ABC affiliate — WMUR News 9 — during the primary.



Photo F. Hieki Yabu, of NHK Japan, was among the many foreign reporters assigned to cover the U.S. Presidential campaign in New Hampshire.

ber of organizations were hosted — including BFMTV France, NHK Japan, PBS Newshour, Phoenix Hong Kong, RTVE Spain, TeleCanal+ France, and TV Tokyo.

Eurovision, <<http://www.eurovision.net>>, a department of the European Broadcasting Union — the largest association of national broadcasters in the world, <<http://www.ebu.ch>> — had its own outdoor staging area for reporters with electric power provided by a Filmworks International generator truck.

On primary eve an army of reporters and their videographers fanned out from the media village to capture the energy on the street, visiting downtown campaign headquarters, interviewing voters, and recording the scenery.

New York-based correspondent Manuel Gallegus for CBS News, **Photo D**; Melissa Russo from 4 NBC New York; and Melinda Davenport, **Photo E**, representing the local ABC affiliate WMUR News 9 were among the television reporters spotted walking the downtown *street beat* looking for stories.

Foreign reporters such as Jay Lee from YTN South Korea; Hieki Yabu of NHK Japan, **Photo F**; Jesper Steinmetz from Danish television outlet TV2 Danmark, **Photo G**; and Vlademir Lenski of Star TV from Russia, **Photo H**, were also out and about with their microphones and cameras.

Some of the foreign reporters and their videographers quite literally had just gotten off a plane at the airport and were on



Photo G. Representing Danish television outlet TV2 Danmark was veteran reporter Jesper Steinmetz.



Photo H. Vlademir Lenski, of Star TV from Russia, was among the many foreign reporters covering events with microphones and cameras.

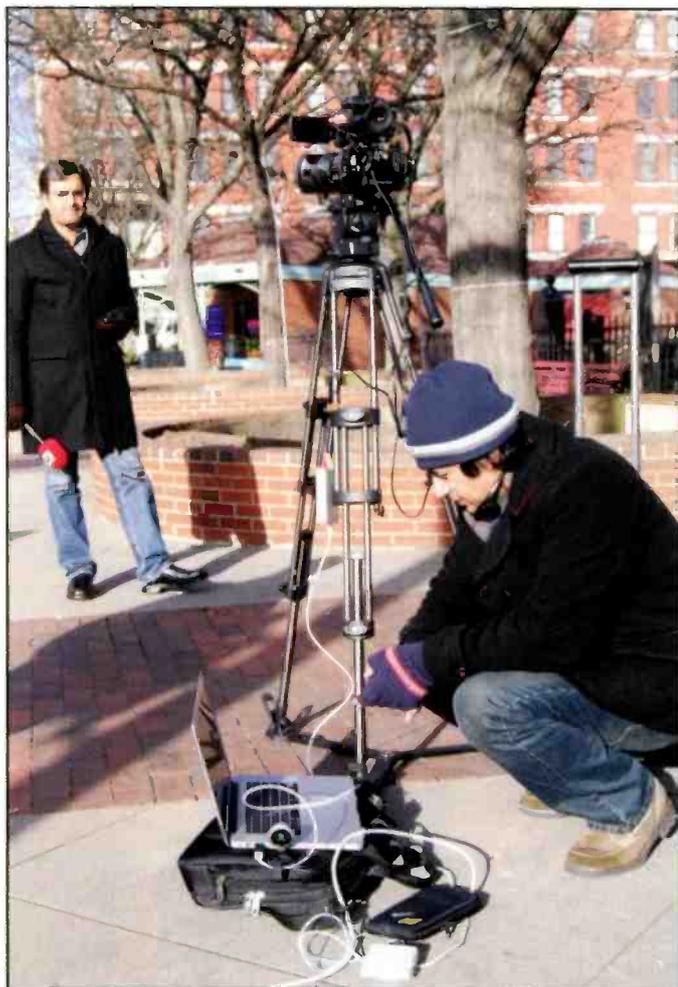


Photo I. Dunya TV, from Pakistan, had a correspondent and videographer on the street linked to headquarters via Clear mobile broadband on a laptop computer.



Photo J. The WFXT Fox 25 Boston satellite truck was one of the more elaborate mobile units at the media village.

the street without any real plan of attack or a place to stay. They were simply on the scene soaking up the experience to later share their stories upon returning to home base.

As one example of an innovative approach to instant reporting overseas, Dunya TV <<http://www.dunyanews.tv>>, from Pakistan, had a correspondent and videographer linked to headquarters via Clear <<http://www.clear.com>> mobile broadband on a laptop computer, **Photo I.**

Although digital satellite and local microwave links still represent the best methods for connecting a live remote broadcast, wireless Internet may be the future of television news reporting as demonstrated by Dunya TV.

Live mobile television broadcasting requires too much bandwidth to provide high-quality, two-way audio and video via current Internet technology, especially given the variable availability of broadband Internet and wireless coverage. But the ability to edit a report and upload the file from a laptop to a newsroom server via wireless Internet has proven to be an effi-

This Month in Broadcast History

75 Years Ago (1937): The research department of All India Radio was established to study the use of medium and high frequency broadcast bands. What was reported as the worst magnetic storm in one-hundred years occurred due to a large sunspot.

50 Years Ago (1962): "Soldier Boy" by the Shirelles, **Photo A**, topped the Wonderful 1430 WIL St. Louis "Silver Dollar Sound Survey." Read more about WIL history at: <<http://bit.ly/z0TGNe>>.



Photo A. Listen to the Shirelles' "Soldier Boy" as it sounded on WIL St. Louis 50 years ago: <<http://bit.ly/zv6VIW>>. (YouTube screen grab)

25 Years Ago (1987): The first Crystal Radio Awards were presented at the National Association of Broadcasters trade show. The Crystal recognizes ten stations annually for community service. KNOM Alaska, KPAL Arkansas, WMAL Washington DC, WQBA Miami, WFMD Maryland, KJMO/KWOS Missouri, KMOX St. Louis, KHAS Nebraska, KGFV Nebraska, and WVMT Vermont were the first to receive the award.

— Bruce A. Conti, WPC/CAT



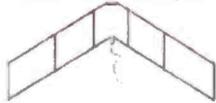
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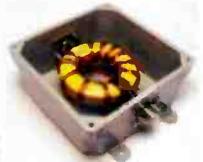


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cient and cost-effective alternative to a satellite truck for international correspondents and smaller-scale organizations such as Dunya TV.

Skype is another Internet resource proven to be an effective tool of last resort for live broadcast reports in volatile situations where a satellite truck is not an option.

Let's Roll!

Broadcast media vehicles were everywhere. WABC-TV New York, WBZ-TV Boston, WHDH-TV Boston, WJAR Rhode Island, NBC Universal, Sirius XM Satellite Radio, and WXRV Independent Radio were among countless media wheels throughout the city.

The WFXT Fox 25 Boston satellite truck at the media village, **Photo J**, was one of the more elaborate setups, serving as the hub for a remote broadcast studio inside the Radisson Hotel and four more satellite trucks covering various events throughout New Hampshire. Broadcast operator Shawn Denoncour, N1WOF, was kind enough to give a quick tour of the Fox operation during a break in the action, **Photos K and L**.

Fiber-optic lines connected master control from inside the broadcast studio to the truck, where a dual-band, Ku satellite link relayed a 6-MHz digital signal on 14217.000 MHz to Boston headquarters while also receiving signals on channels between 11 and 12 GHz.

The actual transmit/receive units are mounted on the horn of the satellite dish to avoid line loss. The truck is also equipped with a backup microwave link and its own electric power generator, although for this operation the truck was plugged into the hotel power.

"Snow and ice accumulation on the satellite antenna is a common problem," Denoncour said, describing some of the technical challenges. "Digital is great; no static. But it can also be hard to troubleshoot. At least with analog you might get some



Photo K. Broadcast operator Shawn Denoncour, N1WOF, of WFXT, was kind enough to give a quick tour during a break in the action. This is the control center in the hotel.



Photo L. A WFXT equipment rack shows the complexities of putting together live remote coverage, as Fox 25 Boston did during the New Hampshire primary.



Photo N. Politico reporter-videographer Julio Negrón interviews Shannon Thompson of Occupy New Hampshire.



Photo O. Freelance videographer Todd Ziemek, working with the NES team, provided primary coverage for Al Hurra using an “Ikke” Betacam.



Photo M. A France 24 videographer captures the scene of the Occupy New Hampshire encampment adjacent to the action at the New Hampshire primary in January.

“I got a job at a public access channel right out of high school,” Denoncour said. “Having an amateur radio license helped, too. After all, RF is RF. Then through connections with the public access job, I was hired at NBC, and now I’ve been working here at Fox 25 for 10 years.”

Occupied Reporters

The Occupy New Hampshire protest group was camped in the park directly across the street from the media village, adding more intensity to the high-energy ambiance of the city.

The *Occupiers* became a convenient focus of attention for reporters looking to cover all the angles of democracy in action. At the time of my visit, a France 24 videographer, **Photo M**, was panning the scene while Politico reporter and videographer Julio Negrón interviewed Shannon Thompson of Occupy New Hampshire, **Photo N**.

Meanwhile, New England Satellite (NES) technicians were setting up lights and cameras for Al Hurra TV, the Middle East television service of the Voice of America, using the encampment as a backdrop.

NES. <<http://www.nescomm.com>> is a federal government General Services Administration (GSA) contract holder hired

noise or clues to help diagnose problems. With digital it’s either on or off — there’s no in-between.”

It’s interesting to learn how one gets into the broadcasting technology field. Trade school and internships are the standard for launching a career in broadcasting, but Denoncour found his own path to success.



Photo P. Al Hurra congressional correspondent Rana Abtar files a live, on-the-scene report from New Hampshire.

by Al Hurra to provide video and technical support. Generators on an NES satellite truck provided electric power for lighting and video equipment that was set up on the Occupy site, and NES relayed reports to Voice of America headquarters in Washington DC.

Todd Ziemek, freelance videographer working with the NES team, **Photo O**, captured scenes for Al Hurra using an “Ikke” Betacam — the nickname videographers have given Ikegami video cameras. The 4:3 aspect ratio of Betacam is still used for television broadcasting in the Middle East.

With everything in place, it was lights . . . camera . . . action, as Al Hurra congressional correspondent Rana Abtar filed a live, on-the-scene report, **Photo P**.



Photo Q. Al Hurra correspondent Rana Abtar talks about Middle East broadcasting in the video “Our People” <<http://bit.ly/ymAU15>>, presented by the Broadcasting Board of Governors. (YouTube screen grab)

Internet Connections

WATCH: An “Our People” report, **Photo Q**, presented by the Broadcasting Board of Governors (BBG) in which Al Hurra correspondent Rana Abtar talks about Middle East broadcasting: <<http://bit.ly/ymAU15>>. The BBG oversees all U.S. government non-military international broadcasting.

READ: Online biographies of television reporters:

- **Melinda Davenport**, WMUR News 9, <<http://bit.ly/w3rhZd>>.
- **Manuel Gallegus**, CBS News, <<http://bit.ly/yiv9QA>>.
- **Melissa Russo**, 4 NBC, <<http://bit.ly/x7bzo5>>.
- **Jesper Steinmetz**, TV2 Danmark, <<http://bit.ly/ynlvYg>>.

It's A Wrap!

And that's the way it was on a cold winter day in January as the democratic process of choosing a president moved forward in New Hampshire. Now it's up to you to complete the story by casting your vote on Election Day. *73 and Good DX!*

Let's Keep An Ear to North Korea — Libya, too

by Gerry L. Dexter
WPC9GLD
<gdex@wi.rr.com>

“When there is change on the ground, change on the airwaves often follows. These two hotspots could provide some very interesting shortwave listening.”

With the death of North Korea's Kim Jung Il, it will be fascinating to follow any changes in the North Korean government's policies and attitudes in the coming weeks and months. His 28-year-old son, Kim Jong Un is now at the top leadership post. *Interesting.*

You, of course, can monitor the changes via the Voice of Korea on shortwave. I've got the current schedule for you this month. I'll also try to keep an eye and ear on the Korean opposition stations. It will be interesting to see if any of them choose to declare victory and go home, or even try to increase their pressure on the North by adding broadcast hours.

Time (UTC)	For Area	Frequencies
0100-0200	LA	11735, 13760, 15180
0100-0200	As	7140, 9345, 9730
0200-0300	As	13650, 15100
0300-0400	As	7140, 9345, 9730
1000-1100	LA	11710, 15180
1000-1100	As	11735, 13650
1300-1400	NA	9335, 11710
1300-1400	Eu	13760, 15245
1500-1600	NA	9335, 11710
1500-1600	Eu	13760, 15245
1600-1700	ME, Af	9990, 11545
1800-1900	Eu	13760, 15245
1900-2000	ME, Af	9975, 11535
1900-2000	Af	7100, 11910
2100-2200	Eu	13760, 15245

Upheaval in Libya

In the news, as well, was the civil war in Libya, resulting in the death of Col. Muammar Gaddafi. The dust hadn't even begun to settle when the opposition took over Libyan Radio and changed the format, putting an end to all of that Jahamiriyah nonsense. The pretentious "Voice of Africa" slogan was thankfully dropped as well, in favor of a simpler **Radio Libya-Radio Television Libya**.

The station is noted by several listeners in the 1600 and 1700 hours on 11600. Although Libya has several high-frequency channels assigned to it, no others are being noted recently. However, it wouldn't hurt to keep a check on: 11860, 11965, 15215, 15660, 17725 and 21695. I'm guessing one

or more of these could go into active mode at any time.

In these days of seemingly endlessly-poor reception conditions, keeping a check on these volatile countries is an interesting additional aspect to your DXing — a fine way to keep up your interest until better times come again.

Elsewhere . . .

Radio Nederland has completed tests on the newly installed transmitters at its Madagascar site. Those units used to be in service at Radio Sweden's Horby site.

Radio Afghanistan, which began service again a few months ago, is reported to have left 6100.2 in favor of 7200 and is being heard in Europe with English at around 1530. That doesn't improve our chances here very much. That frequency is also used by Sudan Radio TV, which we often hear around 0300.

Here are a few of the less-often-heard stations currently being reported in the shortwave media:

- The Australian Northern Territories station **VL8K**, Katherine, on 2485 around 1200 — say an hour or so around dawn wherever you are.
- **Radio Aparecida**, Brazil, 5035 in PP around 0100
- **Cyprus Broadcasting Corp.**, 9760 on weekends from 2215-2245. This one uses the BBC Middle Eastern Relay facilities at Limassol.
- **Radio Mil**, Mexico, on 6010 around 1000.
- And, how about **Radio Australia** being relayed by the UAE site around 2300 on 9855?
- Then there's **Denge Mezopotamia**, broadcasting in Kurdish to Iran on 11530 via Ukraine at 0400 and again at 1500. Some things to chew on!

Now It's Your Turn

Remember, your shortwave broadcast station logs are always welcome. But *please* be sure to double or triple space between the items, list each logging according to home country and include your last name and state abbreviation after each.

Also needed are spare QSLs or good copies you don't need returned, station schedules, brochures, pennants, station photos, and anything else you think would be of interest. And how about



Richard Parker sends this QSL from the old Radio Satellite in Cajamarca, Peru, which operated on 6927 — and also took its good time replying.

sending a photo of you at your listening post? It's your turn to grace these pages!

Here are this month's logs. All times are in UTC. Double capital letters are language abbreviations (SS = Spanish, RR = Russian, AA = Arabic, etc.). If no language is mentioned English (EE) is assumed.

AFGHANISTAN—Radio Afghanistan (t), 7200 at 1535 in what sounded like EE news, music bridge at 15:40 and more talk. LSB or USB works best, depending on the amount of ham QRM. Very poor with difficult copy. (Sellers, ON)

ALBANIA—Radio Tirana, 7425 in Albanian at 0447 with comments and music. Into EE at 0450. (MacKenzie, CA) 2340 on the Mother Theresa Airport there, 9580 at 0800 sign on and 13625 at 1425 on the Balkans. (Maxant WV)

ALGERIA—Radio Algerienne, 5865 via Issoudun at *0358 with time pips at TOH and instl. music. AA anmts f/by recitations. (D'Angelo, PA) 0446 with AA talks. (Parker, PA)

ANGUILLA—Caribbean Beacon/University Network, 6090 at 0405 with Melissa Scott and 11775 at 1415 with Dr. Scott preaching. (Maxant, WV)

ARGENTINA—Radio Argentina al Exterior, 11710.6 at 0200 with multi-lingual ID. M/W with headlines and pgm highlights at 0203. (Coady, ON) 0251 with M and EE features, closing anmts at 0254, ending with tangos and into FF at 0300. (D'Angelo, PA) 15345 at 2338 in SS. (MacKenzie, CA)

ASCENSION ISLAND—BBC South Atlantic Relay, 6005 at 0525 on military operations in Kenya, 6135 at 0515 in Hausa and 9410 at 0432 with news and talk on elections in Africa. (Parker, PA) 7385 at 0325 with EE news reports; African news at 0330. (D'Angelo, PA) 17785 in Hausa at 1903. (Brossell, WI)

AUSTRALIA—Radio Australia, 5995-Brandon on U.S. Middle East "war crimes" at 0854. (Parker, PA) 9590 at 1420 with vocals. (Maxant, WV) 11880 at 1827 with a financial report. (Brossell, WI) 15560 at 2330 with comments, 17715 with rap at 0012 and 17795 at 1224 with comments. (MacKenzie, CA)

ABC Northern Territories Shortwave Service: VL8T, Alice Springs with pops at 1150 and VL8T-Tennant Creek, 2325 with a musical variety pgm at 1130. (Rippel, VA)

AUSTRIA—Radio Austria International, 6155-Moosbrunn at 0627 in GG with pop/rock. (Parker, PA)

BAHRAIN—Radio Bahrain (p) 9745 at 2153-2225 with pgm of continues ME vocals without anmts. Poor to fair. (D'Angelo, PA)

BANGLADESH—Bangladesh Betar, 4750 at 1120 with comments by W. (Wilkner, FL)

BELARUS—Radio Belarus, 6155 at 2157 with group vocals, TOH

fanfare, W with EE news then into features. (D'Angelo, PA) 7255 at 2125 in Belorussian. (Maxant, WV)

BOLIVIA—Radio Yura, Yura, 4716.8 at 0120 in SS with nice music. (Wilkner, FL) 1008 with W and long talk f/by rustic vocals. (D'Angelo, PA)

Radio San Jose, San Jose de Chiquitos, 5580.2 at 0020. This one seems to have been reactivated. (Wilkner, FL)

Radio Santa Cruz, Santa Cruz, 6134.8 at *0859 sign on with choral music, SS talk, flute IS and opening SS anmts. (Alexander, PA)

BONAIRE—Radio Nederland Bonaire Relay, 6165 in SS at 1125, ID 1126 and off at 1127. (Brossell, WI) 11835 in SS at 1430 on India-Pakistan. (Maxant, WV)

BOTSWANA—Voice of America Relay, 4930 at 0301 with M and EE news. (D'Angelo, PA) 0317 with VOA Africa, 9400 at 0420 in Kinyarwanda with local pops, 12080 at 0506 with EE talks. (Parker, PA) 9985 at 0417 with EE interviews. (D'Angelo, PA) 0412 with comments on African elections. (MacKenzie, CA)

BRAZIL—(all in PP - gld)

Radio Difusora do Amazonas, Manaus, 4805 at 2320 with music and talk. (Wilkner, FL)

Radio Cancao Nova, Cachoeira Paulista, 4825 at 2320 with preaching. //9675. (D'Angelo, PA)

Radio Difusora Roraima, Boa Vista, (p) 4875 at 0353 with M/W talking and getting murdered by a bubble jammer. (Parker, PA)

Radio Clube do Para, Belem, 4885 very strong at 0602 with pops. (Parker, PA)

Radio Difusora, Macapa, 4915 with long talk at 0815. (Parker, PA)

Radio Brazil Central, Goiania, 4985 at 0324 with M/W ancrs, slow ballads. Troubled by adjacent channel "warble" QRM. (Parker, PA) 2300 with full ID with slogan and frequency. (Wilkner, FL)

Radio Aparecida, Aparecida, 5035 at 0133 with romantic ballads and pops. (Parker, PA)

Radio Senado, Brasilia, 5990 with domestic music at 0805. (Alexander, PA) 0859-0906 with long talk by W. (Parker, PA)

Radio Clube Paranaense, 6040 at 0548 with W discussion, pop song, 4 + 1 pips at TOH. (Parker, PA)

Radio Bandeirantes, Sao Paulo, 6090 at 2305 with long talk. Anguilla was off the air. (Alexander, PA)

Super Radio Deus e Amor, Curitiba, 9565 at 0524 with clip of a preacher in an impassioned speech. (Parker, PA)

Radio Inconfidencia, Belo Horizonte, at 0136 with a commercial mentioning "Radio Inconfidencia" and "musica popular." (Rippel, VA) 2229 with U.S. pop and domestic ballads, IDs //6010. (Alexander, PA)

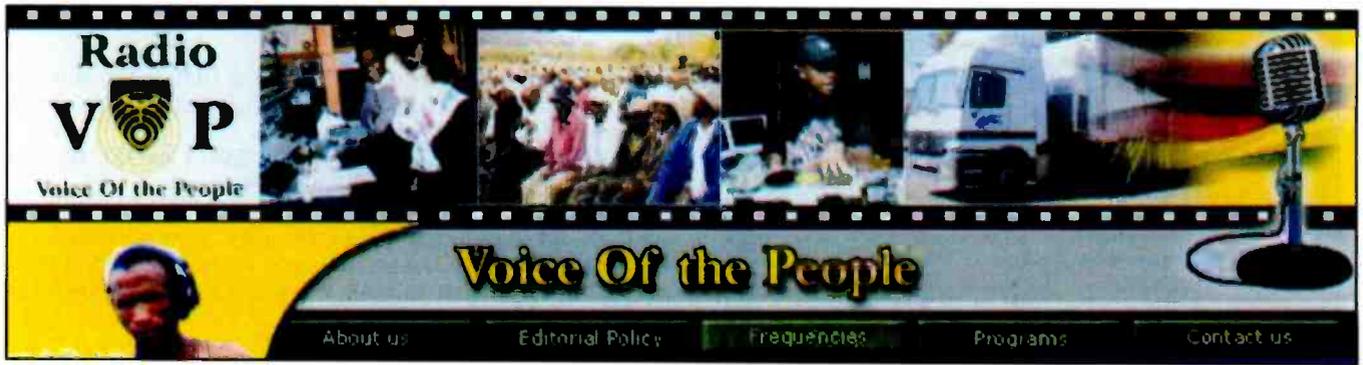
BULGARIA—Radio Bulgaria, 5900-Plovdiv at 0550 in BB with music I'd describe as "techno-jazz-classical." (Parker, PA) 7400-Plovdiv at 2245 mentioning "Radio Bulgaria calling." //5900. (Fraser, ME)

CANADA—Radio Canada Intl, 9770 via China at 1800 with "This

Help Wanted

We believe the Global Information Guide — month after month — offers more logs than any other monthly SW publication! (Some 470 shortwave broadcast station logs were processed this month!) Why not join the fun and add your name to the list of GIG reporters? Send your logs to Gerry Dexter, Global Information Guide, 213 Forest St., Lake Geneva, WI 53147 or email them to <gdex@wi.rr.com>. See the column text for formatting suggestions.

**Not all logs get used. There are usually a few which are obviously inaccurate, unclear or lack a time or frequency. Also discounted are unidentifieds, duplicate items (same broadcaster, same frequency, same site) and questionable logs.*



The Voice of the People opposes the government of Robert Mugabe in Zimbabwe and lets them know about it from Radio Nederland's Madagascar relay station. (Courtesy of Rich D'Angelo)

is the CBC" ID. (Fraser, ME) 11845 in FF at 2145, 11985 in SS at 2213, 11990 in SS at 2210, and 13650 in FF at 2158. (MacKenzie, CA)

CBC Northern Quebec Service, 9625-Sackville at 0551 on the economy. f/by pops. (Parker, PA) 2130 on marriages in the Catholic Church. (Maxant, WV)

CFRX. Toronto, 6070 at 0420 with a medical call-in program. (Maxant, WV)

CHU, Ottawa, 3300 with time anmts at 1415 and 14670 at 1420. (Maxant, WV)

CHAD—Radio Tchadienne, N'Djamena, 6165 at *0437 FF sign on with anthem. ID. M with African music and news. Much of the indigenous music featured a thumb piano. (Wood, TN) 0439 with M and phone calls with short music segments. (D'Angelo, PA) 2330-2359 with extended schedule, covered by Radio Nederland at their 2359 sign on. (Alexander, PA)

CHILE—CVC-La Voz, Santiago, 17680 in SS at 2355. (MacKenzie, CA)

CHINA—China Radio International, 5960 via Canada at 0551 on Korean entertainers and theme from the "Green Hornet" movie, 5985 via Albania at 0557, 9690 in AA talks at 0550, 11750-Shijiazhuang in CC at 0549, 11960-Beijing in CC at 0605. (Parker, PA) 9420 with a CC language lesson at 0143 with a sports pgm, 9425 at 1925 with vocals, 1930 with CC comments, 9570 via Albania at 0137 with comments, 9590 in SS at 0135, 9710 in SS at 0128, 11670 in CC at 1847, 11790 in CC at 1840, 13640 via Cuba in CC at 2353, and 15460 in CC at 0002. (MacKenzie, CA) 6060-Beijing at 1140 in (l) Tagalog, 7390-Hohhot at 1132 in (l) Mongolian, 9540-Beijing in (l) Cantonese, 11640 in CC at 1219, 11875-Kashi in CC at 1157, 11895 in CC at 1826, and 13700-Urumqi in CC at 1832. (Brossell, WI) 9525 with business news at 1501. (Alexander, PA) 9570 via Cuba with news at 0115 and 11660 with CC talk and music. (Maxant, WV)

China Peoples Broadcasting Station/China National Radio, 9455 in CC at 1910. //9355, 11925 in CC at 2212, and 15550 in CC at 0001. (MacKenzie, CA) 11845-Xainyang in CC at 0611 with M/W CC talks,

11960-Beijing at 0538 in CC with lively anmts, 12045-Beijing in CC at 0515. (Parker, PA)

Voice of the Strait, Fuzhou, 4940 airing *Focus on China* in EE at 1509. (Sellers, BC) 6115 at 1054 in Amoy with talks and music to 1100 with 5 + 1 time pips. (D'Angelo, PA)

Firedrake music jammer, 11500 at 1147 and 15445 at 1422. (Brossell, WI)

COLOMBIA—Alcaravan Radio, Puerto Lleras, 5910 in SS at 0847 with guitar and drums with upbeat singing. (Parker, PA)

CONGO (DR)—Radio Okapi, 11690 via Meyerton at 0445 in Lingala with M/W talk and short bridges of tribal music. (Parker, PA)

CROATIA—Voice of Croatia, 3985, //7375 in Croatian with local pops and folk songs, W with mention of "Hrvatski." (Coady, ON) 0310 with M/W in EE segments giving schedule and contact info. (D'Angelo, PA)

CUBA—Radio Havana Cuba, 13640 in SS at 2202 and 15370 in SS at 2337. //15230. (MacKenzie, CA)

CYPRUS—Radio Bayrak Intl (t) at 2234 with pops, one anmt at 2302, presumably in Turkish, then more music programming. (D'Angelo, PA)

Diego Garcia—AFN/AFRTS, 4319 at 0000-0030 with distorted audio. (Wilkner, FL)

EGYPT—Radio Cairo, 6270-Abu Zaabal at 0053 with AA song. A huge signal but horribly distorted, which has to be the longest running comedy on shortwave. (Parker, PA) Poor at 2330 with domestic music and poor audio quality. (Maxant, WV) 9315 at 0200 with opening anmts and Koran at 0204. (Coady, ON)

ENGLAND—BBC, 3255 via South Africa at 0314 //6145 and 9640 with *The World Today*. (Coady, ON) 5790-Wooferton in AA at 0440, 5875 Limassol. Cyprus Relay at 0448 with talks, 5915-Skelton in AA at 0553, 5975-Wooferton in Hausa at 0556, 4790-Thailand Relay at 2323, 9410-Cyprus Relay at 0450, 9915-Cyprus Relay in AA at 0517, 11820-Oman Relay in AA at 0422, and 12095-Skelton on books at 0457. (Parker, PA) 12095-Cyprus Relay at 2210. (MacKenzie, CA) 15575-Cyprus Relay with world news at 1332. (Brossell, WI)

CVC Intl. (p) 6260 via Thailand at 0327 with instls, long talk in (l) Hindi for India/Pakistan. (D'Angelo, PA) 1450 in Hindi. (Sellers, BC) Via Tashkent in Hindi at 0101. (Parker, PA)

ERITREA—Voice of the Broad Masses, 7110 at 0320 with HOA music and vernacular talk. Much stronger on //7175. (Alexander, PA) 7175 at 0321 with HOA music, also 0414

This Month's Winner

To show our appreciation for your loggings and support of this column, each month we select one "GIG" contributor to receive a free book or other prize. Readers are also invited to send in loggings, photos, copies of QSL cards and monitoring room photos to me at *Popular Communications*, "Global Information Guide," 25 Newbridge Rd., Hicksville, NY 11801, or by email to <gdex@wi.rr.com>. The email's subject line should indicate that it's for the "GIG" column. So, come on, send your contribution in today!

This month's prize winner is **Joe Wood**, Greenback, Tennessee, who can now consult the 2012 edition of *The World Radio TV Handbook* so he'll be able to check frequencies, schedules, languages, addresses, personnel. That's in addition to the equipment reviews, transmitter lists and other references he can access. The WRTH has it all. You need to have a copy as well. The WRTH is available from radio hobby dealers, just about any walk-in book store, or you can go online and get it from dozens of book dealers. Don't turn on the radio without it!



Here is Kim Seong Min, founder of Free North Korea Radio broadcasting from a Seoul studio, via Tashkent, Uzbekistan. (Courtesy of Rich D'Angelo)

with lively local vocals and M in (p) Amharic. (Coady, ON) 0320 in vernacular and enjoyable upbeat music. (Parker, PA)

ETHIOPIA—Radio Ethiopia, 9705 at *0258 opening with IS, anmts, anthem, chimes and into Amharic talk. (Alexander, PA) 0317 in (p) Amharic. (Coady, ON)

Radio Fana, 6110 at 0414 with HOA vocals and two M in Amharic discussion. (D'Angelo, PA)

Amhara State Radio, 6090 at *0256 sign on with IS, anmt, HOA music at 0300, then talk in (p) Oromo. Anguilla was off at the time. (Alexander, PA)

Voice of the Tigray Revolution, 5950 at 0459 in Tigrinya with adjacent channel splatter. (Parker, PA)

FRANCE—Radio France Intl, 5925-Issoudun in FF at 0629, 11505 via Meyerton in FF at 0450 and 11790 via Meyerton in Swahili at 0555. Abruptly off at 0558. (Parker, PA)

FRENCH GUIANA—Radio France Intl Relay, 13640 at 2155 with pops; off at 1159. (Brossell, WI) 21690 in FF at 1920. (MacKenzie, CA)

GABON—Africa Number One, Moyabi, 9580 in FF at 0542 with talks, ID at the quarter hour. (Parker, PA)

GERMANY—Deutsche Welle, 9735 via Portugal at 2131 with various reports about Nigeria and other African countries. (D'Angelo, PA) 9895 (via?) in GG at 2125, then off at 2129, 11865-Rwanda Relay at 2132 on sports training there. 11965 in (I) Hausa at 1843, 13650 in presumed news in AA at 1801 and 15640 at 2120 on apartheid in South Africa. (Brossell, WI) 9810 Rwanda at 0545 on European immigrants and 9855 Rwanda at 0527 seeking email comments. (Parker, PA) 11865-Rwanda Relay at 2125 on conditions in Somalia. (Maxant, WV) 2159 commenting on urban areas. (MacKenzie, CA)

GREECE—Voice of Greece, 9420 in Greek at 0004. (MacKenzie, CA)

Radiofonikos Stathmos Makedonia, 7450 in Greek with Greek music. (D'Angelo, PA)

GUATEMALA—Radio Verdad, Chiquimula, 4055 at 0443 in EE with M preacher. (Parker, PA) 0550-0607* with religious music f/by multi-lingual closing anmts. (Alexander, PA) 1200 with religious music. (Wilkner, FL)

GUYANA—Voice of Guyana, 3290 at 2231 all evening with M ancr and EE talk, IDs and anmts. (D'Angelo, PA)

HONDURAS—Radio Luz y Vida, San Luis, 3250 at 0025 with poor signal with instl music; partial ID garbled, xylophone or similar. Also blasting in at 1139. (Wilkner, FL) 0336-0403* with EE religious pgm, seemingly gone by 0402. (D'Angelo, PA)

INDIA—All India Radio, 4800-Hyderabad (p) at 0110-0130 in unid language, single marker tone at 0115, mentions of India, 4920-Chennai (t) at 1200 with sub-continental music, perhaps China mixing, 11620-Delhi-Khampur opening tone and ID at 1330 and into national news. (Rippel, VA) 4810-Bhopal at 1513 in Hindi with pro-

Here's Your "Blast From the Past" For This Month:

Radio Haute Volta, Ouagadougou, Upper Volta (now Burkina Faso), heard on 4815 in FF with an 0559 sign on August 12, 1961.

mos and what sounded like news and 4840 Mumbai, //4810 in Hindi at 1514. (Sellers, BC) 4920-Shimla at 1234 with W and news in Hindi, also, 5010-Thiruvananthapuram with and Hindi news. (D'Angelo, PA) 5010-Thiruvananthapuram in Hindi at 0045, 9870-Bangaluru in Hindi at 1246 and, 11670-Bangaluru in Hindi at 2135. (Brossell, WI) 7270-Chennai in Tamil at 1205 with Indian pops. (Parker, PA) 9425 in Hindi at 1917. (MacKenzie, CA) 11670 at 2140 with ID, Indian music. (Maxant, WV) 11715-Panaji (Goa), //7550, 9445, 11670 with man on various sports, 13710-Bangaluru at 1404 with sitar instls and W with ID for General Overseas Service, and 15175-Panaji (Goa), in (I) Gujarati at 1517 with Hindi-like vocals, ID at half past and into an apparent radio drama. (Coady, ON)

Athmeeya Yatra Radio, 7215 via Germany at 0114 in Hindi with brief Hindi music and two M in apparent religious talk. (Coady, ON)

INDONESIA—Voice of Indonesia, 9526 (p) at 1427 in (I) Indonesian with W talk and brief bit of gamelan music. (Coady, ON) 1418 with "Voice of Indonesia" ID, talk and music bridges. (Sellers, BC)

IRAN—Islamic Republic of Iran Broadcasting, 7200 at 0334 with M and Koran recitations, f/by W with a prayer in EE, //7365 was quite poor. (D'Angelo, PA) 9895-Zahedan at 0520 in AA with two W talk, 12015-Kalamabad in TT at 0523 with M telling story with music interludes. (Parker, PA) 11685 with Koran recitations at 1315. (Rippel, VA)

IRELAND—RTE Radio Worldwide, 5820 via Meyerton at 2012-2031* ending features pgm. Closed with instl music f/by World Radio Network ID. UN Radio pgm started before the carrier was terminated. (D'Angelo, PA)

ISRAEL—Galei Zahal, 7635 (nf), 2235 with local music and HH talk. Poor and weak. (Alexander, PA)

JAPAN—NHK World Radio Japan, 5810 (unknown site) at 0523 in EE on JJ history. Abruptly off at 0529 and 5975 via Wooferton with recipe for chicken at 0523. (Parker, PA) 6120 via Canada at 1215 on thermal baths in Japan and 21560 at 1495 with news. (Maxant, WV) 9625 at 1028 ending EE pgm with ID, closedown anmts and contact info, //9840 was poor. (D'Angelo, PA) 9835 in JJ at 1855, 11910 in JJ at 2154, 13640 in JJ at 2153, 15195 in CC at 2343, 17605 via Bonaire in JJ at 2347, 17810 in II at 2325. (MacKenzie, CA) 11695 at 1400-1430 on eating healthy. (Rippel, VA) 11740 via Singapore in (I) Tagalog at 1155. (Brossell, WI)

KUWAIT—Radio Kuwait, 5960-Sulaibiyah in AA at 0511, 9445-Sulaibiyah in Dari at 0419 with phone calls. (Parker, PA) 21450 at 1227 with presumed religious discussion, many mentions of Allah. (Rippel, VA)

LAOS—Lao National Radio, 6130 at 1159 TOH sign on, 5 + 1 time pips, and (p) ID. Faded and lost all audio by 1215. Later day at 1159:45 with jingle and into IS bells at 1200, ID by M, distinct mention of "Lao" and talk in language. (Rippel, VA)

LIBYA—Radio Television Libya, 11600 at 1654 with light instls and M in FF, ID at 1700 f/by more instls and occ FF talk. (D'Angelo, PA) 11860 in Hausa at 1410. (Maxant, WV)

MADAGASCAR—Radio Madagasikara, 5010 at 0216 with non-stop music to open with W ancr in Malagasy with ID and anmts. (D'Angelo, PA) 0230 with on with choral music and Malagasy talk. No IS or anthem on this date. (Alexander, PA)

MALAYSIA—Sarawak FM, Kuching, 9835 at 1126 with W in Malay hosting traditional music pgm. (D'Angelo, PA)

MALI—Radio Mali, Bamako, 5995 at 0559 in FF with sign on, W with frequency anmts, fascinating indigenous music to 0630. (Parker, PA)

MAURITANIA—Radio Mauritanie, Nouakchott, 7245 at 0552 in abrupt sign on with AA talk, local guitar and chants and wailing at 0601. (Alexander, PA)



Dutch pirate Black Arrow Radio QSL'd for D'Angelo.

MOLDOVA/Pridnestrovie—Radio PMR, 7290 at 2130 with "This is the next edition of the informational analytic program Pridnestrovyya, prepared by the editorial staff of the Voice of Pridnestrovyya, the Radio PMR," then news to 2242 and program sign off and ID, music. (Coady, ON)

MONGOLIA—Voice of Mongolia, 12085 at *1030 with W with ID and opening EE pgm, f/by news. Closed with a Mongolian folk tune. (D'Angelo, PA)

MOROCCO—RTV Marocaine, 15345 at 1935 with talks in AA. (Brossell, WI)

Medi Un, Nador, 9575 at 0535 in FF with W anc and a club-type pop song. (Parker, PA)

NETHERLANDS—Radio Nederland, 5955 via Vatican in DD at 0638 and 9895 via Nauen in DD at 0614, //9865 Bonaire Relay. (Parker, PA) 15495 via Germany at 1828 with pgm *Bridges to Africa*. (Brossell, WI)

NEW ZEALAND—Radio New Zealand Intl, 5950 at 1318 with M talking about Kiribati, ID 1329 and mailbox pgm. (D'Angelo, PA) 11725 at 0537. (Parker, PA) 15270 at 2327 with M/W and comments and 2132 on oil process and summer time in New Zealand. (MacKenzie, CA)

NORTH KOREA—Voice of Korea, 6285 in RR with M/W speakers, orchestral music. (Sellers, BC) 9335 at 1302 with orchestral NA, ID, *Song to the Great Leader*, another ID and beginning of EE pgm. 11735 at 0111, //13760 with praises for the late Kim Jung Il and mention of "the sorrowful nation of Korea" then off suddenly at 0118 on both frequencies. Also, 13760 at *0100 with multiple IDs f/by anthem. (D'Angelo, PA) 11710 at 1350 with W and patriotic songs and M comments. (Fraser, ME) 15180 at *0100-0200* with news commentary pgm by W. (Rippel, VA) 11685 at 1204 in JJ and 15180 at 1130 with instls and FF talk. (Brossell, WI)

Korean Central Broadcasting Station, 11680 at 1113 with long-winded talk by M/W anc. And they listen to this stuff domestically? (D'Angelo, PA)

NIGERIA—Voice of Nigeria, 15120 with IS beginning at 0450 with repeated IDs, anthem at 0500 and into EE news. (Rippel, VA) 1829 on peaceful coexistence there. (Brossell, WI)

Radio Nigeria, 6090 at *0432 with choral anthem, African chorals, talk in (p) Hausa and local tribal music. Anguilla was off. (Alexander, PA)

NIGER—La Voix du Sahel, 9705 at 2101-2300* weak and down to threshold level at times. FF talk, indigenous vocals, short flute IS just before NA at 2259. (Alexander, PA)

OMAN—Radio Sultanate of Oman, 15140 at 1420 with pops pgm to 0430 ID, f/by EE news to 1438. (D'Angelo, PA)

OPPOSITION—Democratic Voice of Burma, 6225 via Kazakhstan with W/M in (p) Burmese. Poor. (Sellers, BC)

Denge Mezopotamia (to Iraq), at 0431 in (l) Kurdish. (Parker, PA)

Radio Free North Korea, 9380 (p) via Tashkent at *1200-1224 with M/W in KK talks. (D'Angelo, PA)

Radio Dabanga (to Sudan), 7315 via Issoudun at *0438 with "Radio

Dabanga" to 0429 opening ID and anmts in AA, news at 0430. (D'Angelo, PA)

Radio Voice of the People (to Zimbabwe), 11610 via Madagascar at 0400 with M and EE news, ID and frequency anmts at 0402 and news in vernacular language. (D'Angelo, PA) 0439 with M in vernacular and music bridges, off abruptly just before 0500. (Parker, PA)

PAKISTAN—Radio Pakistan, 9470-Islamabad at 1700 with W and EE news, 1710 into (p) Urdu. (D'Angelo, PA)

PALAU—T8WH, 9985 at 1944 with W and comments f/by singing. (MacKenzie, CA)

PAPUA NEW GUINEA—Radio East New Britain (New Britain), 3385 with excited talks in Tok Pisin at 1205. (Wilkner, FL)

PERU—Ondas del Huallaga, Huanuco, 3330 at 2320 beginning to fade in with SS talk. (Wilkner, FL)

Radio Huanta 2000, Huanta, 4746.9 at 1014 with SS talk, ID and TC over OA vocals. (D'Angelo, PA)

Radio Tarma, Tarma, 4775 at 1017 with rustic OA vocals and SS M host. (D'Angelo, PA)

Radio del Pacifico, Lima, 4947.9 at 0328 with traces of M SS anc and music. (Parker, PA)

Radio Manantial, Huancayo, 4986.8 in SS at 1115. (Wilkner, FL)

Radio Libertad, Junin, 5039.1 at 1018 with nice selection of OA music hosted by M SS anc. (D'Angelo, PA)

Radio Tawantinsuyo, Cusco, 6172.9 in SS fading out around 1110. (Wilkner, FL)

PHILIPPINES—Far East Broadcasting Co., 9400 at 1250 in CC. Also 12095 in 1148 in (l) Laotian. (Brossell, WI) 12095 at *2252-2329* with IS under BBC-Ascension which eventually closed at 2259 leaving FEBC in the clear airing the Hmong pgm with long M talk. (D'Angelo, PA)

Radio Veritas Asia, 9615 in CC with talks at 1140. (Brossell, WI)

PIRATES—Captain Morgan Shortwave, 6924 at 0027 mentioning "this program is relayed by a free radio station," and then mentioned Captain Morgan. Email: <captainmorganshortwave@gmail.com>. (Hassig, IL) 2330-2335* with Christmas music and ID. (Alexander, PA)

Crystal Ship, 6925u at 0127 with pops and rock, "You are listening to the Crystal Ship on the TCS relay network." Email: <tcsshortwve@gmail.com>. (Hassig, IL)

Radio Free Euphoria, 6925.1 at 2220 mournful ballad, other, older pops. Email: <radiofreeeuphoria@yahoo.com>. (Hassig, IL)

Radio Gaga, 6935u at 0140 various spoof number, anarchy in UK other punk and heavy metal. Email: <radiogaga@gmail.com>. (Hassig, IL) 6930 with an ID at 0328, into "Strangers in the Night." (Rippel, VA)

Radio 20-13 International, 6925 at 2214 with pgm of techno things and periodic IDs by M and W. (D'Angelo, PA)



Equipment used at Black Arrow Radio. (Courtesy of Rich D'Angelo)



Here's Ed Fluchs, WA7DAX, in his well-equipped shack in Salt Lake City.

Wolverine Radio, 6925u at 0310 with pop/rock from the late '60s and '70s. SSTV/FAX modes at 0352. (Hassig, IL)

Radio Strange-Outpost No. 7, 6930.8 at 0031 with chorus vocals, cryptic references to "Hotel Alpha." No address and was under modulated. (Zeller, OH)

CYOT (?) Test broadcast 6951.1 with song, computer chime sound, test tones, country and big band tune and clip from *The Great Gildersleeve* radio show. Off suddenly. (Hassig, IL)

Northern Relay Service, 6930.1 at 0240 with some miscellaneous letters in CW and singing and often repeated phrases. (D'Angelo, PA)

Wild Turkey Shortwave, 6930.1 at 2330 with a guy imitating a pirate ID. Email: <wildturkeyshortwave@gmail.com>. (Rippel, VA)

WMPR. (t) 6935 at 0121 playing MOR pops, unlike the usual techno stuff. (Wood, TN)

WFMT/Family Radio, 9624.6 at 0012 mentioning "Family," "Radio" and airing new age things. (Hassig, IL) *2347 with bells/chimes, ID, light instls, rap and pops. (Alexander, PA)

KBOX (?), 6925u at 0227 with strange pgm of audio clips, offbeat music. (Hassig, IL)

Red Nose Radio, 6925 at *0015 with IDs, blues. (Alexander, PA)

Free Radio Service (Holland), 7600 at 0820 with pops, DJ chatter with an overall poor signal, but even weaker on //5800. (Alexander, PA)

POLAND—Polish Radio, 15155 via Germany with apparent news in (l) Ukrainian at 1830. (Brossell, WI)

PORTUGAL—RDP Intl, 11905 in PP at 1830, M/W with comments. (MacKenzie, CA)

ROMANIA—Radio Romania International, 7229 in EE at 2330 on cultural events. (Fraser, ME) Here and //6015 on a recently deceased Romanian jazz musician. (Coady, ON) 9690-Tiganesti in FF at 0614 with talks and jazz music bridges, 11790-Tiganesti in FF immediately after RFI with IS and talks, 11895-Galbeni in EE at 0412 on dangerous icy driving conditions. (Parker, PA) 15430 at 1130 with piano solos and 15310 at 1905 in Romanian. (Brossell, WI)

RUSSIA—Voice of Russia, 7250-Tbilissi at 2325 with *In Focus* pgm. (Fraser, ME) 7260-Vladivostok at 1118 with M/W on hobbies there, Russian hits at 1230. (D'Angelo, PA) 7335 via French Guiana in SS at 0506, and 9840 at 0415 on rising gas prices. (MacKenzie, CA) 9680-Samara in RR at 0610, 12030-Petropavlovsk at 0424. (Parker, PA)

Radio Rossi, 6075-Petropavlovsk-Kamchatka at 1343 with techno selections, M in RR, 5 + 1 time pips at 1300 close. (D'Angelo, PA) 12070 at 0509 with RR pgm anmts, IDs. (Parker, PA)

RWANDA—Radio Rwandaise, 6055 at 2047-2100 with M in FF talk, local vocals, M returned with more talk to TOH when the broadcast suddenly ended. (D'Angelo, PA) 2055-2100* with Afro-pops. M in FF, abruptly off at 2100. (Alexander, PA)

SAO TOME—VOA Relay, Pinheira, 4960 at 0426 with *Daybreak Africa*. (Parker, PA) 1440 with good morning to Africa. (Maxant, WV)

SERBIA—International Radio of Serbia, 6100 via Bosnia at 2225 with pgm *Pop Time*. (Fraser, ME 6190 at 0206 with M and news, W with EE ID, then more news. (Coady, ON)

SEYCHELLES—BBC Indian Ocean Relay, Mahe, 9460 with news at 0300, into *The World Today* at 0306. (Coady, ON)

SINGAPORE—BBC Far East Relay, 15470 in (l) Urdu at 1520. (Brossell, WI)

SOUTH AFRICA—Channel Africa, 7390 in FF at 0453 with two M commenting. (MacKenzie, CA)

Radio Sondergrense, 3320 at 0317 with a Beach Boys number, then M with brief Afrikaans talk using echo chamber defect, then more soft rock. (Coady, ON)

SPAIN—Radio Exterior de Espana, 3350-Costa Rica Relay, in SS at 0530, 4965-Costa Rica in SS at 0516, and 12035-Nobeljas in SS at 0519. (Parker, PA) 6055 Costa Rica with mailbag pgm at 2345. (Maxant, WV) 9535-Nobeljas in SS at 0447. (Parker, PA) 9675 in SS at 0130, 9765 Costa Rica in SS at 0433, 9620 in SS at 0133 and 17850 Costa Rica in SS at 2154. (MacKenzie, CA)

SUDAN—Radio Omdurman, 7200 in AA at 0239 with chants, then talk mentioning "Arabie" and "Omdurman," more chants and back to talk at 0245. (Coady, ON)

Radio Miraya FM, 9940 via Ukraine in AA at 0426 with AA rap/pops with M/W ancrs. (Parker, PA)

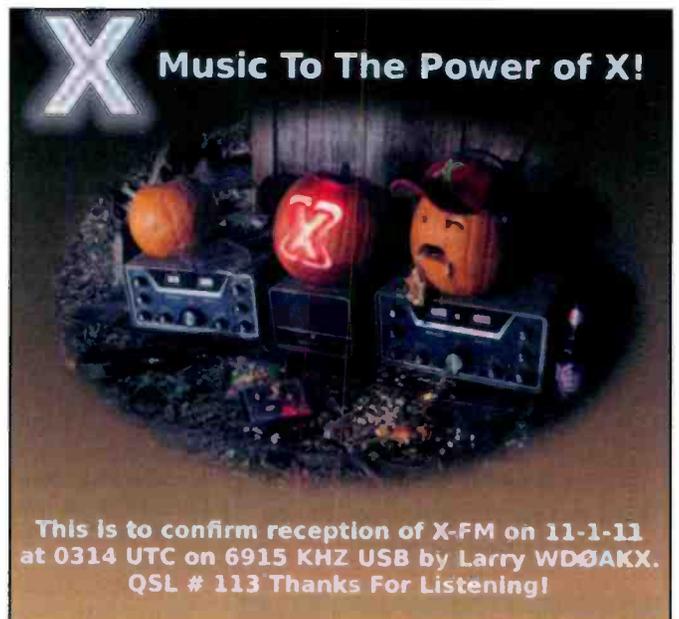
SURINAME—Radio Apinte, Paramaribo, 4990 at 0323 with Motown sounds, colliding with (p) AIR-Itanagar. (Parker, PA)

SWAZILAND—TWR, Manzini, 3200 at 0535 in EE, but audio was barely above the noise level. (Parker, PA)

TAIWAN—Radio Taiwan Intl, 11665 with W in CC at 0424. (Parker, PA) 1155 with talks in CC, 15690 in FF at 1935. (Brossell, WI)

TAJIKISTAN—Radio Dushanbe (t), 4765.1 at 0010-0056 with M/W with talks and short bits of music. Very challenging level here. (Rippel, VA)

THAILAND—Radio Thailand, 7255 with familiar bells IS at 1114, "This is HSK9, Radio Thailand World Service" and into Khmer; 7465 at 1303 with W in JJ, male vocals, closedown in JJ, bells IS, and into EE; 9535 at 2035 with M/W and news in EE, into *International Update*, more bells at 2045 and into Thai language; 9680 at 1932 with M/W and news in EE, ads at 1939, more IDs and sports. Bells and close-



Pirate XFM sent this QSL to Larry, WAOAKX for his reception on 6915usb.

down for European Service at 1959, 13745 at 0008 with usual news format, anmts for Bangkok Airways Cargo, Department of Trade, Air Asia and Hyatt Regency. Bells at 2045 and opening of Thai language pgm. (D'Angelo, PA) 13745 at 0006 with EE news, ads for Bangkok Airways, International Bangkok Hotel, more news and features. (Alexander, PA) 15275 at *0200-0230* in EE with ads, pgm *How the World Looks*. (Rippel, VA)

TUNISIA—RT Tunisienne, Sfax, 7275 in AA at 0500. (Brossell, WI) 7345 in AA with hollering and drum banging. (Parker, PA) 9725 at 0300 in AA with M and news, W with subdued talk over strings at 0301 then into a radio drama. (Coady, ON) 1951 with ME music to 2000 ID, then M with news in AA. (D'Angelo, PA)

TURKEY—Voice of Turkey, 5960 with *Letterbox* at 2323. (Fraser, ME) 7205 at 2125 on Syrian murders. (Maxant, WV) 9655 at *0357 with periodic EE ID by W, EE opened at 0400 with 5 + 1 time pips and into news by W; 15200 with ME programming at 1543, AA anmts at 1551, f/by IS. (D'Angelo, PA) 9700-Emirler in TT at 0617, 9820-Emirler in TT at 0538, and 11980-Emirler in TT with "Midnight Express" music. (Parker, PA) 9765 in SS at 0123. (MacKenzie, CA) 11735 at 1800 with sign off anmts. IS from 1823 and carrier promptly off. (Rippel, VA)

UNITED STATES—Voice of America, 5960-Greenville at 0130 with Special English. (D'Angelo, PA) 7560 via UAE with *Question of the Week* at 2315. (Parker, PA) 9885-Greenville in SS at 0112, 17645-Philippine Relay in CC at 0018. (MacKenzie, CA) 12075-Sri Lanka Relay with world news at 1200, 15250-Philippine Relay in CC at 1245. (Brossell, WI)

Radio Free Asia, 9355-Northern Marianas Relay, in CC at 1925 and 15550-Northern Marianas in CC at 2333. (MacKenzie, CA) 11540-Northern Marianas in CC at 1828 and 13830-Northern Marianas at 1213 in (I) Tibetan. (Brossell, WI)

Radio Free Europe/Radio Liberty, 5925 Biblis Relay in RR at 0457. (Parker, PA)

Radio Marti, 6030-Greenville in SS at 0547. (Parker, PA) 13820-Greenville in SS at 2155. (MacKenzie, CA)

Radio Farda, 9430-Lampertheim Relay in Farsi at 0435 and 9550 Biblis Relay in Farsi at 0500. (Parker, PA)

Sudan Radio Service, 11800 via UAE Relay in AA at 0425. (Parker, PA) 15500 German Relay in AA at 1645. (Brossell, WI)

Radio Azadi, 12140-Kuwait Relay with M in Dari at 0402. (Parker, PA)

Radio Marshal, 12130-Sri Lanka relay in Pashto at 0450. (Parker, PA)

AFN/AFRTS, 12133.5u Key West at 0445. (Parker, PA) 13362uGuam with sports report at 1140. (Brossell, WI)

Family Radio/WYFR, 6240 in CC at 1438. (Sellers, BC) 9280 via Huwei in Mandarin at 1210. (D'Angelo, PA) 1503 with Bible study. (Sellers, BC) 11550 in (I) Indonesian at 1151. (Brossell, WI)

WWCR, Tennessee, 3215 at 1430. (Maxant, WV) 4840 at 0524 carrying CCN Radio Network's Alex Jones. (Wood, TN) 11845 at 2150. (MacKenzie, CA)

WRMI, Florida, 0115 in EE/SS. (MacKenzie, CA) 1430 with a religious preacher. (Maxant, WV)

WINB, Pennsylvania, 9265 at 0145. (MacKenzie, CA)

WTJC, North Carolina, with gospel songs at 1420. (Maxant, WV)

WBCQ, Maine, 15420 with woman preaching at 1725. (Maxant, WV)

WWRB, Tennessee, 3185 with Brother Stair at 1435. (Maxant, WV)

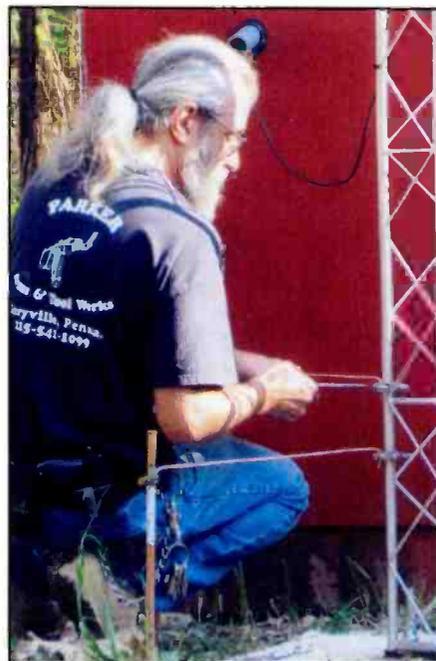
WBAP, Texas, 25910 FM STL, at 1904. (D'Angelo, PA)

Trans World Radio, 6105 via Nauen at *0800 with instls, f/by pgm *Rendezvous*. (D'Angelo, PA) 6115 via Samara at 1523 with EE translated into Urdu. (Sellers, BC) 7310 via Moosbrunn at *0800. (D'Angelo, PA)

Adventist World Radio, 15205 via Germany in (I) Igbo to Nigeria at 1945 and 15440 via Austria in (I) Urdu at 1415. (Brossell, WI)

WEWN, Alabama, 11520 at 1425 and 15610 at 1410. (Maxant, WV)

VATICAN—Vatican Radio, 9660 with the African service at 1435. (Maxant, WV) 9660 via Madagascar at 0306 on the Pope's



Rich Parker, Pennsburg, PA, works on the ground system at his recently constructed separate shack.

Nigerian visit. (Coady, ON) 9900 via Novosibirsk in CC at 1305. (Brossell, WI) 9660 in FF at 0602, 11625 via Madagascar at 0508, and 11715 with classical music at 0528. (Parker, PA)

VIETNAM—Voice of Vietnam, 6175 via Canada at 0120 on Western industry moving to Vietnam. (Maxant, WV) 9730-Son Toy with M/W in EE at 2047-2058*, 9840-Son Toy at 1138 in EE with ID and commentary. (D'Angelo, PA) 12000 in VV at 1204. (Brossell, WI)

ZAMBIA—Zambia National Broadcasting, in vernacular at 0545. (Parker, PA)

CVC-One Africa, 4965 with religious drama at 0344. (Parker, PA) 13590 with pgm *Baseline*. (Brossell, WI)

Hats off, high fives, and hurrahs to the following good guys who came through this time: Robert Brossell, Pewaukee, WI; Chuck Rippel, Chesapeake, VA; Brian Alexander, Mechanicsburg, PA; William Hassig, Mt. Prospect, IL; Stewart MacKenzie, Huntington Beach, CA; Richard Parker, Pennsburg, PA; Rich D'Angelo, Wyomissing and at French Creek State Park DXpedition, PA; Charles Maxant, Hinton, WVA; Harold Sellers, Vernon, BC; Mark Coady, Peterborough, ON; George Zeller, Cleveland, OH; Robert Fraser, Belfast, ME; Robert Wilkner, Pompano Beach, FL; Joe Wood, Greenback, TN; and Ralph Perry, Wheaton, IL. Thanks to you all and, until next month, good listening!

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Communications Trivia and Other Pursuits

By R.B. Sturtevant,
KPC7RBS/AD7IL

Q: You have mentioned Commodore Robert Peary going to the North Pole and his use of wireless to report his success. Were there ever any other Arctic explorers who used radio extensively during their expeditions?

A: Yes, quite a few. One Italian explorer who flew over the North Pole in the dirigible *Italia*, **Photo A**, might be someone you've never heard of — Umberto Nobile, **Photo B**. After he crossed the pole and was on his way home, Nobile's air-

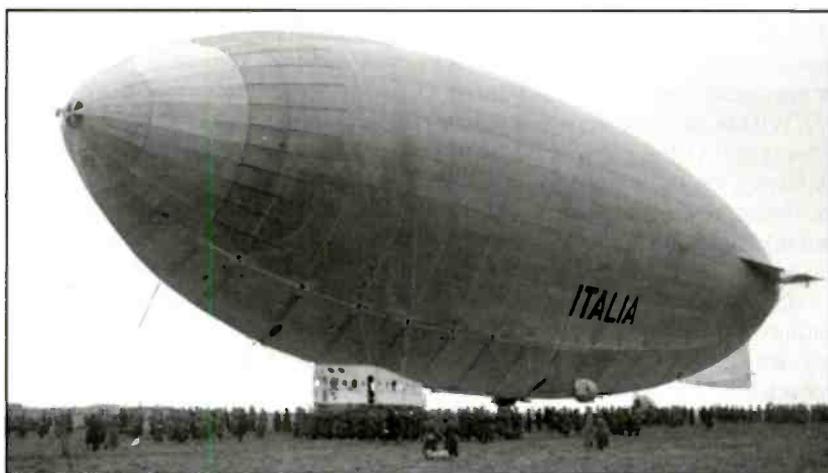


Photo A. After crossing the North Pole, the airship *Italia* was hit by a severe downdraft on its return trip on May 25, 1928, crashing onto the ice pack below. (Courtesy of German Federal Archive Bundesarchiv, Bild 102-05738/CC-BY-SA, via Wikimedia Commons)



Photo B. Umberto Nobile, who commanded an aircrew flying over the North Pole in the dirigible *Italia*, called upon his radio operator, Giuseppe Biago, to signal for rescuers after the airship crashed. (Courtesy of Wikimedia Common, in U.S. public domain)

ship was hit by a severe downdraft and crashed onto the ice pack below. That was on May 25, 1928.

The dirigible split in two and carried off six men who were never seen again. One man in Nobile's group was killed and nine others were left stranded on the jagged ice flow. The group's radio operator, Giuseppe Biago, managed to get out of the stricken airship with the radio gear cradled in his arms. The gear was saved, and using metal tubing from the downed airship, Giuseppe built a radio antenna.

He then worked the key tapping out *SOS Italia*. Finally, on June 3, a Soviet amateur in Archangel picked up the signal. Rescue flights began searching and the survivors were spotted on June 20. Some of the stranded men died before rescuers arrived, but most were saved.

Q: Who had the most effective communications in Normandy around the time of D-Day?

A: Because fighter aircraft have so many potential targets, they must be controlled from the ground by fellow pilots who "speak the same language." On D-Day the Ninth Air Force was supplying the ground troops and convoys with air cover. Their leader, Major General Elwood Quesada, **Photo C**, flew over in his P-38 to establish ground-to-air control for his fighters.



Photo C. General Elwood Quesada established advanced headquarters on the Normandy beachhead and directed his planes by radio in aerial cover and air support for the Allied invasion in June 1944. (Courtesy of USAF)

(Continued on page 82)

OK, Everyone — Let's Take It Outside!

by Kirk Kleinschmidt,
NTØZ, KPCOZZZ
<kirk@cloudnet.com>

“Forget about lounging on the beach. My idea of a great day by the water includes a lighthouse, a sunset and a van full of radio gear!”

Although winter has definitely descended here in the northern plains — the wind chill is minus 15 F as I write this — until a few days ago, Minnesota's first week of January seemed more like San Francisco's. Without the fog.

And even now, though the weather is Siberia-cold and windy, there's only a dusting of snow. I'm still enjoying the record-breaking warm spell, in my mind, anyway. And I'm thinking ahead a few short months to what I now consider the premiere *outdoor* on-air events for beginning hams: ARRL Field Day, <<http://bit.ly/yJWlkG>>, and the June VHF QSO Party, <<http://bit.ly/zb9KBP>>.

Both of these events have seen outstanding levels of participation in recent years, and with the proliferation of affordable rigs with 6-meter coverage, activity on the Magic Band has been spectacular during both events.

I don't know which outing offers more 6-meter fun. It's almost like they are extensions of the same contest! Last year, even with indoor antennas and QRP power, I worked stations on 6 meters

from coast to coast. Right now I'm imagining what I might do from the top of a hill, building or scenic overlook.

'CQ Field Day . . .'

Although there's no HF activity as part of the June VHF QSO Party, there's plenty of HF during Field Day. The bulk of it, actually. If you ever needed an excuse to take your radio gear outside your shack and explore the wide world of portable amateur radio operating, I can't think of a better time of year or a better set of activities.

Field Day 2012 takes place on June 23 and 24. It's always the fourth full weekend of the month. It's the most popular on-air event each year in the U.S. and Canada, with more than 35,000 hams participating individually, with friends or with clubs and organizations. That makes for *lots* of QSO potential!

FD is a *non-contest* contest, if you will. It's a contest of sorts, but it's not as rigid as more strin-



Photo A. Forget about lounging on the beach. My idea of a great day by the water includes a lighthouse, a sunset *and* a van full of radio gear! Eckart Moltrecht, DJ4UF, who obviously feels the same way about working meteor-scatter, snapped this photograph of his portable 2-meter station on wheels. If your German language skills are up to snuff you can see more of Eckart's many amateur radio activities at: <<http://www.dj4uf.de>>. (Courtesy of DJ4UF, via Wikimedia Commons)



Photo B. Video taken of *Asociacion de Radioexperimentadores de Nuevo Leon*, shows XE2NL in operation using a Yaesu FT-817 during ARRL Field Day from Parque Chipinque, Monterey, Mexico. The 5-watt QRP transceiver was tuned to 28-MHz SSB and powered by battery at 11.1-volts DC. Contacts were made using a 10-meter dipole, 10 feet above ground. (**WATCH:** <<http://bit.ly/r4Hqvr>>.) (YouTube screen grab)

gent competitions, which probably explains its popularity. Some operators treat it as a contest, many use the opportunity to practice emergency communication skills, and an increasing number of us use it as an excuse to escape *condo hell* for a weekend. *Me!*

VHF 'Party Time' in June

The June VHF QSO Party, ahead of Field Day, occupies the second full weekend of the month. That's June 9 and 10 this year. With most activity restricted to 6 and 2 meters (mostly 6), the contest takes place at a time of year that often sees excellent VHF propagation, **Photo A**.

Like Field Day, the VHF QSO Party is newbie-friendly and lots of operators work it from outdoor locations, so you'll be in good company if you're *hill-topping*. And if the sunspot cycle really perks up, as it did a few months ago, global F₂ propagation may really add some *zing* to the event. Here's hoping.

Field Day and *hill-topping* share common DNA, so the practical aspects to each are quite similar. Here are some practical tips to get you moving in the right direction . . . *outdoors*.

It's Still Amateur Radio

Indoors or out, ham radio is still ham radio, so don't get crazy just because you're out in the fresh air and sunshine. Elevated locations with good views of the horizon often make the best sites for just about any outdoor radio activity, especially at VHF.

A few tall trees (antenna supports) might be nice for HF operators, but VHFers may fare better in *mount baldy* environments.

When you set up shop, remember to be respectful of landowners' and property. Get permission ahead of time, if possible, and don't trash the place, break branches, cut wire fences, and so on. Remove any antennas you put up and don't leave any garbage or junk behind when you leave.

Most outdoor operators use compact 12-V mobile rigs, commercial or kit QRP transceivers, or QRP gear they've built themselves, but almost any rig will work from the field as long as

you can supply the required power — and shelter, if necessary.

Obviously, AC-mains power isn't the norm *in the bush*, so unless you drive a hybrid car you'll probably need to power up via marine batteries, solar panels, or a small portable generator.

When running on "field power," keep a close eye on power consumption. If you're operating from a battery that can't be recharged until you get home, which is common, your rig's power draw will determine your operating time.

Reducing your transmitter power can make a big difference when you're *transmitting*, but will do nothing to save power while you're receiving — which accounts for the bulk of your operating time.

Some rigs are designed for minimal power consumption while receiving. Elecraft's KX1 and Yaesu's FT-817ND, **Photo B** — pint-sized, low-power, multiband radios — are good examples. The KX1 <<http://bit.ly/yBcSPH>> takes almost *no power*, but it's not as versatile as the *dc to daylight*, multimode FT-817ND, <<http://bit.ly/xKTjld>>, which still consumes a lot less juice than a typical 100-watt mobile rig. (**WATCH:** *XE2NL work 10-meter SSB on ARRL Field Day using a Yaesu FT-817 QRP transceiver*; <<http://bit.ly/r4Hqvr>>. — Ed.)

Taller Than a Tower

What's taller than a 100-foot tower? A 200-foot tower, of course — or a 6,000-foot mountain peak! Especially at VHF and higher frequencies, mountains, hills, skyscrapers and fire lookout towers, **Photo C**, almost certainly trump any tower or trees you're likely to have in your backyard. Any lofty location you can get to *safely, and with permission*, could produce amazing propagation. And that's the whole idea.

Hilltops or mountaintops that aren't accessible by car may be accessible by bicycle, horses or on foot. Although those destinations are often more difficult to reach, they reward your efforts with good propagation paths, minimal interference *and* scenic beauty.

You'll probably have to use battery power and make a few other trade-offs, but that may not matter in the end. It's all up to you. Use Google Maps and the Internet to identify some high spots near you.

Portable Antennas

Field antennas should be lightweight and unobtrusive. But just like at home, antenna performance still makes or breaks your on-air experience.

There are dozens of field-proven designs, but I've used two main types of portable HF antennas over the years.

One is a 40-meter dipole fed with 300-ohm TV twin lead. The elements are made from 20-gauge magnet wire, the center and end insulators are made from small, thin Plexiglas™ scraps and everything's held up with 30-pound test monofilament fishing line. I often shoot a length of fishing line over a single tall tree — with a wrist rocket-style slingshot — and use the antenna as a sloping dipole.

A compact antenna tuner, with a built-in balun and an SWR meter, lets me work all the bands from 40 meters and higher and not worry about feed-line loss, and so on. Because the antenna is electrically balanced, no additional RF ground is required.

If the location allows, I may shoot a 33-foot insulated wire into — or over — a tree and connect the near side to the business end of my antenna tuner. I then roll out one or two additional 33-foot counterpoise wires and connect it (them) to my tuner's grounding post.

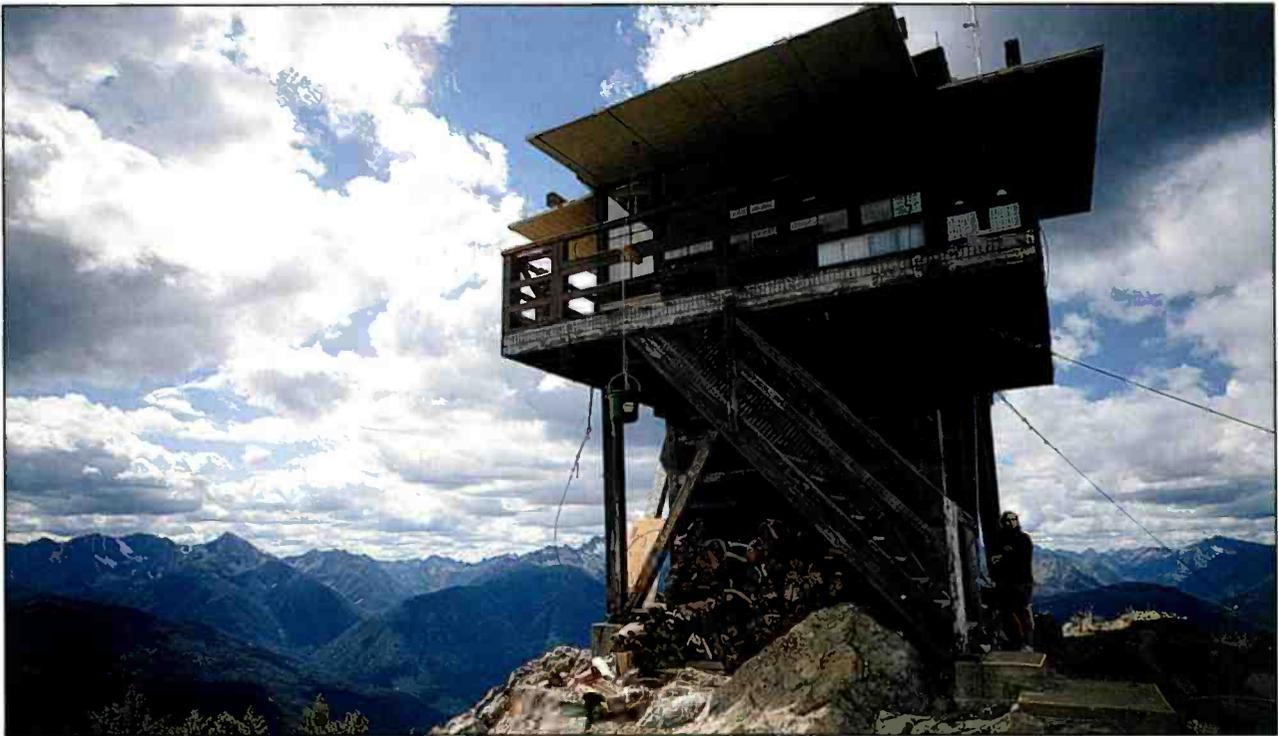


Photo C. The view and line-of-sight is spectacular from the lookout tower on Goat Peak <<http://bit.ly/AxN5ly>> in the William O. Douglas Wilderness of the North Cascades of Washington State. (Courtesy of Curt Smith, via Wikimedia Commons)

This “lazy vertical” starts at the tuner, which eliminates any loss from feed line runs. I can tune this antenna on all bands from 80 meters and higher using a conventional tuner.

With either antenna, if I need to rapidly change bands (or I’m feeling especially lazy!), a compact autotuner works nicely. My tiny LDG Z-11PRO II <<http://bit.ly/yx1wHT>> takes less than one watt to tune and works through 6 meters. Because the antenna starts at the tuner, be mindful of RF exposure issues and shock hazards if you’re running more than 50-watts output, or so.

If you’re making a portable version of your favorite antenna, remember to keep things simple, compact and lightweight. These things don’t have to last forever, and they don’t have to survive hurricanes and winter storms, so don’t be afraid to sacrifice ultimate survivability to achieve something that doesn’t hog all of the space in your backpack, or economy car.

I’ve always liked 300-ohm TV-style twinlead for portable use. It has very low SWR losses, it’s lightweight, it can be rolled into a small, flat package and it doesn’t require special connectors. You’ll probably need a tuner/balun to use it successfully, but you probably have that on hand anyway.

If you have the room and can stand the weight, conventional coax works in the field as it does at home. If you’re thinking of using a mini coax such as the teeny RG-174, confine your efforts to 80 and 40 meters and keep the coax run as short as possible. Mini cables are just too lossy at higher frequencies or for long cable runs.

At VHF and up, remember that antenna polarization is important. Be sure to use the correct antenna polarization when switching from FM to SSB/CW, or you’ll suffer a whopping 20- to 30-dB signal loss.

- FM signals are almost always vertically polarized. Your beam/Yagi will have to be oriented so that the antenna elements are parallel to the mast (vertical). In that configuration, make

sure your antenna mast is wood or fiberglass, and not aluminum, which will hurt performance.

- Single-sideband and CW signals are almost always horizontally polarized, and your Yagi/beam will have to be oriented so that its elements are perpendicular to the mast (horizontal).

- Practical wisdom suggests that it’s difficult to try to work non-local SSB and CW with a vehicle-mounted whip antenna. The polarization losses are likely to be severe.

Practice Makes Perfect

Before heading for the hills, set up your *exact* field station in your backyard before you leave town. *I really mean exact, too!*

Use the same antenna, the same battery, the same tuner — the *same everything*. That’s the only way you’ll know whether you have *everything* you’ll need during the big day. During the test run, when things seem perfect, carefully make a checklist of your station’s components and look it over while you pack items prior to departure.

If you’re traveling by vehicle, be sure to pack a few extra goodies such as a tiny digital multimeter, a pocketknife or multifunction Leatherman®-style tool, electrical tape, extra wire, clipleads, a compact set of screwdrivers, a small wire cutter/stripper, a pair of Walkman®-style headphones with an appropriate adapter, and so on. Murphy and his Law are ready to strike at any moment. <<http://bit.ly/zDij32>>.

So, whether you’re eyeing Field Day, the June VHF QSO Party, or both, do whatever it takes to *take it outside*. Like many operators, once you do, you’ll be hooked. *You laugh?* Well, today’s hardcore enthusiasts who drive rover vans sporting 18 antennas and a half-dozen rigs started out just like you, asking: *Is portable operating really all that much fun?* It was, and it is. *See you in the field and on the air!*

Fool's Gold³, Radio and TV Style

by Shannon Huniwell
WPC2HUN
<melodyfm@yahoo.com>

A trio of classic broadcast stories underscore the "reason for the season" as March steps aside for the inauguration of one of the craziest months of all . . .

"I should have figured out that Q-108 was a totally bogus station," Lyle Wayland admitted, "when the woman who answered the phone there yelled, 'Billy, there's a call for you. Take it in the kitchen, and stay away from my fresh-baked pie!'"

But, the now much-wiser 50-something *Pop'Comm* subscriber was barely 17 at the time of his early 1977 attempt to become a major market broadcaster. In fact, Wayland had been on the air at his small southwestern town's AM daytimer for a grand total of only five Sunday mornings before answering a help-wanted *Air Talent* ad he'd spotted in some short-lived freebie radio newsletter retrieved from the general manager's trash can.

The classified copy read:

New suburban Chicago FM with tall tower seeks air-personality with good voice and tight board for top Windy City PM Drive show. Send cassette tape & resume to William V. Mankin, PD & GM, Q-108 FM, PO Box 580, Downers Grove, Illinois.

And that's exactly what he did . . . Wayland knew that even though he'd probably made the station ID and accompanying local weather forecast sound like they'd been written by Shakespeare, his air-check required meatier content than would be possible between a pair of 7.5-inch reel-to-reel church service tapes.

So, he gathered the half-dozen recognizable current Top-40 singles that the little AM owned and concocted a supposed quarter-hour segment of his fabricated morning show, which "telescoped" down — by cutting out all but his patter and the records' introduction and concluding 10 seconds — to approximately three minutes.

"In retrospect, it sounded like a poor imitation of a run-of-the-mill DJ," Wayland remembers. "But I had this pipe dream about quitting high school and making it *big* on the radio in some far-away place that would be the envy of people in my tiny town."

Two weeks after mailing his cassette and carefully-typed (on the rural station secretary/receptionist's chattering IBM Selectric) resume to Q-108, he received a positive reply. Inside the envelope was a picture postcard of the Chicago area station and a letter, scribed in an almost mechanically-meticulous hand: Although Wayland was among "many numerous applicants for the coveted air-shift," his tape possessed "a sound that should nicely match the quality format of Q-108's target audience demographics and programming philosophy."

Wayland says he wasn't at all that sure what such an eloquent assessment meant, but risked his stepfather's wrath and immediately made an unauthorized long-distance telephone call to the prominently positioned Q-108 number. It, too, had been architecturally hand written in big block characters right next to the alleged station official's invitation: *Please contact me with your interest in this position and salary requirements at your earliest convenience!*

Wayland nervously waited on the line for at least a minute before hearing muffled footsteps,

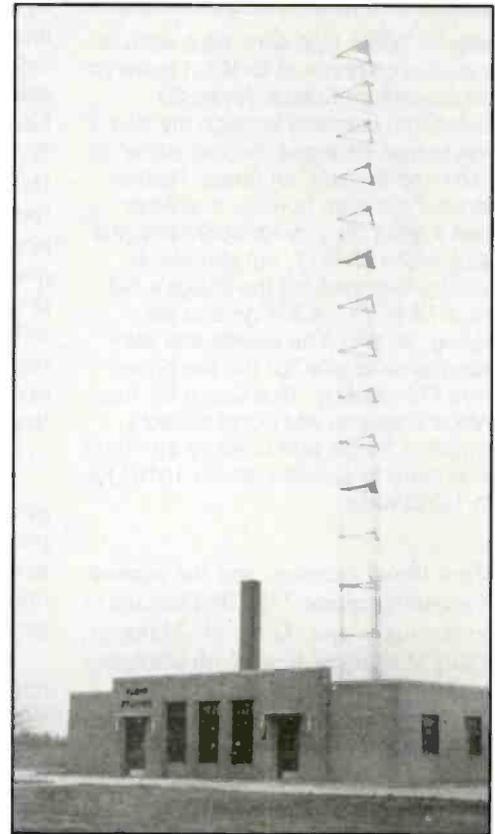


Photo A. How many broadcasters would go to all the trouble of constructing a nice brick building and erecting a hefty three-legged tower and then simply label their headquarters, *RADIO STATION*? "Yeah, that does seem pretty suspicious to me now," our first story's, Lyle Wayland, admits. "But when the alleged Q-108 manager included it in a reply to my job application, it looked pretty official to me." It turns out that the place was a radio station, just not a broadcast facility that needed a 17-year-old, afternoon-drive Top-40 DJs."

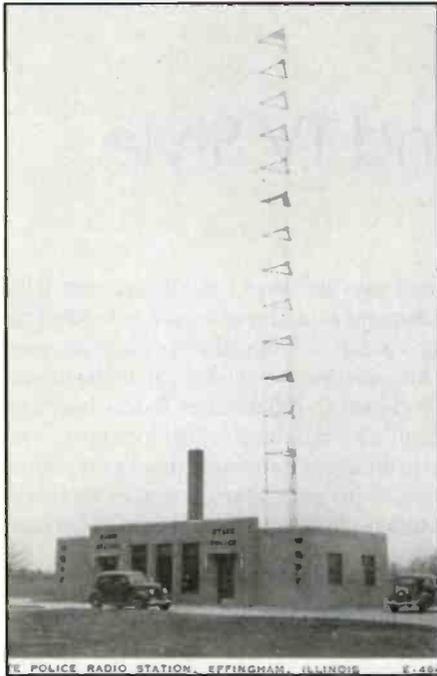


Photo B. When Lyle sent me a scan of the supposed home of Q-108, I knew I'd seen the picture before. About 20 minutes into combing through my files, I came across enough postcard evidence for any cop to make an arrest. Neither Lyle nor I are sure how the prankster pulled it off in the *pre-PhotoShop* digital editing world of 1977, but somebody erased or cropped out the image's old cars, *STATE POLICE* sign and call lettering, WQPF. The perpetrator did honor the callsign's "Q" (for the phony Q-108 FM identity). That was a lie, too, as WQPF was an AM outlet based in Effingham, Illinois and used by the State Police there to *call-all-cars* via 1610 kHz with 1,000 watts.

profuse throat clearing, and the answerer's pronouncement: "Q-108 Director of Programming and General Manager, William V. Mankin, here. With whom am I speaking?"

Wayland stuttered a response, giving little thought to the fact that the guy on the other end of the wire sounded as if he was forcing his otherwise thin voice down an octave or two in order to suggest sophistication.

Mr. Mankin got right to the point of offering Wayland Q-108's "coveted" afternoon shift. The station executive required an instant one-year contract commitment and promised to talk money if Wayland accepted the on-air job. Legally giddy at that point, the now-erst-while teen remembers that negotiations began at Illinois minimum wage and quickly escalated to \$50,000 per year,

plus a so-called "high ratings bonus" if Q-108 came within two points of (then Chicago Top-40 leader) WLS 890. He reflects that his stepdad was hardly even earning 40 percent of that figure.

"Before I hung up the phone on that Tuesday evening, I was so blown away by these wonderful turns of events," Wayland notes, "that I enthusiastically agreed to Mr. Mankin's stipulation that I report to the Q-108 studios by noon the following Monday. After stating the station's street address, he even detailed that I was to arrive there equipped with a good pair of Koss®-brand stereo headphones, mentioning something about the other Q-108 jocks being very particular about sanitary conditions. "We will supply the Lysol® to be sprayed on the ElectroVoice® studio microphone after each show," the manager indicated.

During his day-and-a-half bus ride from Albuquerque to Chicago, the newly-hired major market radio announcer considered the whirlwind of events that were changing his life. Even on the hour-long hitchhike to the Greyhound terminal, Wayland cut three major ties with his past. He wondered why it had felt more uncomfortable giving notice to the owner of his hometown's modest AM than it did when quitting school or informing his mother that he was about to move a thousand miles away. And every so often, Wayland patted the knapsack containing a couple of changes of clothes, about \$30 and some headphones — still in the box and ready to impress Mr. Mankin.

The former New Mexico teen thought how glad he was that Mankin had promised Q-108 would accommodate its new DJ in a local motel for a week or so until he got his first paycheck and could get into a nice apartment.

As he let himself relax and take in the unfolding Midwestern landscape, Wayland imagined the left and right studio control board meters happily bouncing to the carefree cadence of his voice and silently practiced clever things he might say between the records on his show. "*Hey Windy City, you've got a friend in FM stereo,*" he heard his imagination say. "*It's me . . . Lyle Wayland . . . Playing the hits at Chicago-land's great Q-108!*"

The fledgling disc jockey could hardly believe his added good fortune when a college girl he'd struck-up a conversation with on the bus turned out to be from Downer's Grove. She was sure her dad wouldn't mind giving Wayland a lift to Q-

108's address that he'd written down on the little slip of paper folded in his wallet. But that's where the boy's luck ran out.

"Are you sure this is where your radio station is, son?" the young woman's father asked incredulously. "Looks like a residential neighborhood to me."

Wayland hoped to prove the locale to be accurate with a request that Q-108 be dialed in. "Sorry, again, son," the man pointed. "This is my wife's car and it only has an AM radio. Anyway," he offered, "we'd be happy to wait for you while you find out if you've got the right house."

"No, that's OK," Wayland nodded as he began feeling things unravel. "I know I copied down the address that the station manager gave me, so this must be it. Besides, I wouldn't know where else to ask you to take me."

Thirty seconds later, he was standing near the suburban home's front door and half-heartedly waving so-long to the girl in the car that had just pulled away from the curb. As the sound of its motor faded, he could hear recorded music wafting through a slightly opened second story window. Maybe that's coming from studio speakers, he hoped, and then cautiously stepped into the entrance.

"Hello?" Wayland nervously called, after noticing a living room and dining room, but no lobby or receptionist.

"Who are you?" a woman of about 50 demanded from a hallway apparently connected to the kitchen. She held a paring knife and threatened to call the police.

"I'm very sorry, M'am, and mean you no harm," Wayland promised. "I'm looking for a Mr. Mankin at Q-108. He gave me this address."

"Mr. Mankin is my husband," she said, "but what did you want from him? And what do you mean by Q-108?"

The woman's expression turned from fear to disappointment as Wayland offered his explanation: From answering Q-108's ad to betting his future on the trip to Chicago.

When he finished, she asked him to wait in the living room, and then rushed upstairs. "*Billy!*" the lady scolded while assertively knocking on a door. "Let me into your room this instant!"

Wayland could decipher the moment the door was allowed opened . . . The current pop hit, "*Dancing Queen*" by ABBA blasted into the second floor hallway and continued filling the rest of the house. (**WATCH:** *Abba perform their 1977 hit "Dancing Queen,"* <<http://bit.ly/yXraOV>>. — Ed.)

Under the music, the woman's frustrated chastising was evident. Some guy laughed maniacally when she'd said her piece and then began descending the staircase.

When she dropped into a chair across from where he was sitting, Wayland noticed that she'd started dabbing her eyes with a tissue. "I'm afraid that the Mankin family owes you a big apology."

"There is no Q-108 FM, is there M'am?"

"No," she gently shook her head. "I'm afraid that what certainly might seem to be a very cruel joke is just a figment of my mentally ill son Billy's imagination. He spends most of his time listening to the radio and playing records. Years ago, we took him to visit a station in Chicago. He loved it, and was especially taken with the announcers' headphones. My husband built a little studio in Billy's room so Billy could make believe he had his own station. We even got him a subscription to some radio magazines. I had no idea, though, that Billy would go so far as to place a want ad in one. I am truly sorry," she emphasized.

When the woman's husband arrived home that evening and heard the Q-108 new \$50,000-per-year DJ story, he became as contrite as his wife. Wayland was given supper and spent the night in the guestroom. Several times during the wee hours, music could be heard, followed by Billy affecting an announcer's voice and telling his imaginary audience various song titles, time and weather.

The couple later apologized for the disturbance. After breakfast, they insisted he take five \$20 bills for his trouble.

As Wayland left the house, he saw an overweight 20-something guy standing in a bedroom window. "April Fools to you

from all of us at Q-108 FM Stereo!" he laughed. Adding to that sarcastic remark, the guy stuck a can of Lysol® out of the window and pushed heavily on the button.

"Billy! That'll be quite enough!" the senior Mr. Mankin warned with a deliberate index finger. Then he drove Wayland to the bus station and paid for a ticket back to New Mexico. "My wife and I are truly sorry for our son's prank," he repeated. "Please don't let it discourage you from pursuing your dream of a radio career. Maybe someday you will work for a station here in Chicago."

"But I never did," Lyle Wayland told me. In fact, he didn't even return to his hometown. Instead, when Greyhound deposited the dejected teen in Albuquerque, he sat pensively on a shop-worn waiting room bench at the depot wondering what to do.

The only possible remedy that came to mind was a maiden aunt whom Wayland hadn't seen in years, but recalled her as having been kindly. Her listing in the phone book indicated she lived just a few miles away. The old lady listened to his story and turned out to be an answer to prayer. Wayland stayed with her just long enough to finish high school and then joined the U.S. Army.

A Glimpse of Decidedly Strange Syracuse TV, Circa 1978

Joanie Ingersoll had been in Central New York for only a few hours when she unwittingly found herself in the flabbergasted audience of a television station that the Federal Communications Commission knew nothing about.

An Ohio native serious about a boy she'd met at the Boston-area college where they were both history majors, Ingersoll was invited to spend spring vacation 1978 with his family in Solvay, a small blue-collar community bordering Syracuse.

The petite strawberry-blonde remembers being incredibly nervous when her beau suggested that she and his mom get to know each other. "You could watch some TV and maybe enjoy a little bit of girl talk," he figured. "My dad and I have an April tradition of checking out the car dealers' lots on Automobile Row and then getting a bite to eat at Hyde's, a famous hot dog

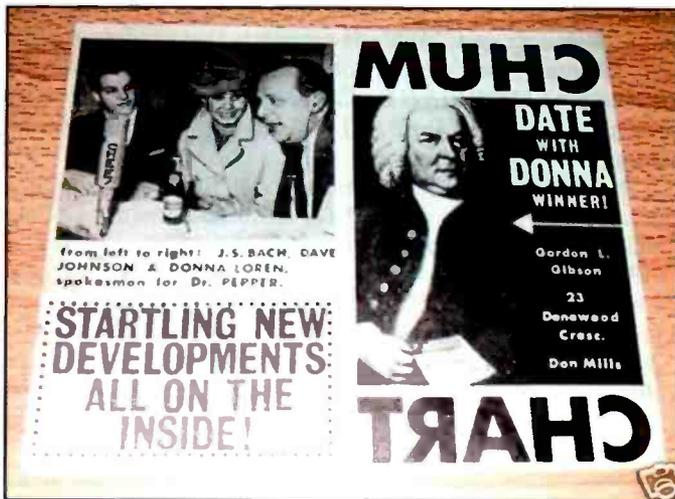


Photo C. Top-40 radio stations loved the promotional opportunities that even a mid-week April Fool's Day could provide. Typical stunts just right for an April 1st included announcing a plan to change the station's format to classical (or maybe *all accordion*) music, supposedly firing a star DJ who "went nuts" on the air, locked himself in the studio and played the same song for four hours, and a host of other less ambitious "goofs" such as printing kooky commands someplace on the station's weekly music survey. Here, Toronto, Ontario's CHUM on 1050 kHz, told listeners/survey collectors to hold up the one-page folded chart "to any fluorescent light, approximately 26 inches from your face. Stare for five seconds then rotate slowly — first to the right, then to the left. Watch the design!" It caused a lot of kids to wonder what they were supposed to have seen and more than a few old-timers to shake their heads . . . and then maybe try it themselves.



Photo D. Yet another 1960s April Fool's edition of a CHUM CHART, Toronto's C-H-U-M's print publicity related to its hit music format and the numerically-rated popularity of the records the 50,000-watt Canadian station aired. Both little documents were recently spotted for sale on eBay.

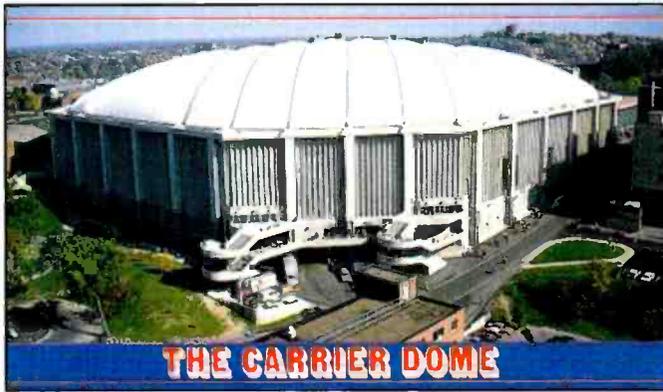


Photo E. The stadium image on this Syracuse University area postcard was likely shot from an S-U building. The school sits on a hill in an otherwise relatively flat city. Those who enjoy theorizing about Lucky 7, a pirate TV station that surprised some television viewers in the spring of 1978, speculate that its transmitter and antenna were secretly positioned in an open window or rooftop on or near campus. Some Lucky 7 buffs also believe that all of the illicit station's programming was pre-taped on the then rather-new technology, the VCR, and piped into the homebrew transmitter for its April Fool's ride into Central New York airwaves.

place on the other side of Onondaga Lake," he noted. "Just be yourself and I know you'll win her over."

While the guys were gone, the women dined on soup and toasted cheese sandwiches, then navigated through a bit of small talk about Ingersoll's family. Though attempting to downplay her upper-middle class background when answering questions, Ingersoll had a feeling that the conversation was providing little common ground between she and her boyfriend's factory worker mother.

Several minutes of conspicuous silence at the kitchen table prompted the hostess to make some coffee and motion that they should take it into the living room. "Turn on the TV," the older woman directed. "Watch whatever you usually watch on Friday nights."

But Ingersoll wasn't a regular television viewer and had no idea of any network's evening lineup. Making matters more awkward was the fact that she didn't have an inkling about which channels one could receive in the Syracuse market. The 19-year old simply started clicking around the dial.

Had the CBS offering on local Channel 5 where Ingersoll first landed been her preference, it wouldn't have passed muster with the mom. "I can't stand that show!" the lady declared, pointing her coffee mug at the TV screen. "Some scientist gets so upset that he turns into a green monster. *The Impossible Hulk* or some such stupid thing," she criticized.

Ingersoll took that as her cue to take another chance with the Zenith tuner knob. One click, two clicks, and an image appeared in black and white on Channel 7.

The picture wasn't nearly as clear as the one down the dial, but the two women could certainly distinguish the content. They watched incredulously as an actor portraying some medical specialist examined a scantily clad actress cast as a patient a few years older than Ingersoll. He then informed her of a startling anatomical discovery. "That's quite a doctor's appointment," Ingersoll's boyfriend's mother mouthed and motioned her guest to sit down.

A few minutes later, she mentioned that the sound wasn't too good, but neither female tried adjusting the set. When the movie

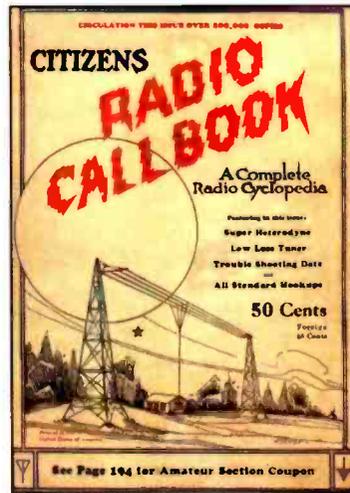


Photo F. Here's a 1924 cover of the *Citizens Radio Call Book* radio station directory. The publication expended considerable resources compiling details of broadcast outlets' callsign, location, frequency, ownership and power. This was a formidable task in radio's early years when stations were coming, going, changing power and most everything else on a daily basis. To foil other magazines fixing to steal *Citizens Radio Call Book's* best efforts, its editor

quietly inserted a decoy — or "fake" — station within the publication's listings. Any competitor that noted it in their product was instantly busted!

ended, Ingersoll sheepishly looked at the mom who shook her head and laughed. "Well, I bet his waiting room is always full!" she said. "What do you say that we don't get too detailed if the guys ask about what we watched tonight?"

"I sure won't, if you won't" Ingersoll smiled, "Anyway, they wouldn't believe we picked up that kind of thing on TV!"

"No one knows for sure how many people saw telecasts over the weekend of such fare as (the pornographic movie) *Deep Throat* on a station calling itself Lucky Seven," *The New York Times* later reported. "What is certain is that programs came over Channel 7, and there is not supposed to be any Channel 7 in Syracuse." (**LOOKING BACK:** See the *New York Times* piece reprinted in the April 20, 1978 *Ocala Star-Banner*; <<http://bit.ly/AfJRcM>>. — S.H.)

The ladies did tell their men about the weird station's announcer who wore a gas mask and said something about Lucky Seven TV covering "about half of the Syracuse area."

By the time the fellows returned home, though, nothing could be detected on Channel 7, except the snowy characteristic of a blank spot in the local video spectrum. "And you say the station identification on this mysterious channel was a pair of dice rolling sevens?" the guys asked with rolling eyes. "Mom, what did you put in that coffee? Ingersoll's boyfriend joked. "We get it, don't we, Dad? The girls are putting us on!"

Several sources cite Lucky 7 as being America's first pirate television station, but it would seem more plausible to call it the first unauthorized TV transmission to reach enough people to rate a footnote in broadcast history.

Arguably, some previous experimenter somewhere within the U.S. successfully put a primitive video signal in the air, albeit so weak that it dissipated after a few hundred feet. Besides benefiting from a transmitter robust enough — probably about 50-100 watts — to enliven sets within approximately five miles of the transmission antenna, three other factors — besides being "first" — have contributed to the Syracuse venture's infamy:

- The movie content: *One Flew Over the Cuckoo's Nest*, the then nearly-new *Rocky*, and especially that X-rated *Deep Throat* — and another naughty film, *Behind the Green Door*.
- The illicit outlet's unchallenged appearance three April nights in a row, apparently from the same Syracuse

University campus area venue where the signal was consistently reported to be strongest.

- The pirate's or pirates' ability to keep his (or *her* or *their*) identity secret even after three and a half decades, though there are theories as to the impetus behind Lucky 7. In fact, no video record of the enigmatic station has surfaced, and Web searches don't yield much about it either.

Much of Lucky 7's meager chronicle comes from a handful of message board musings, like a 2009 burst on <<http://www.radio-info.com>>: "Word has it," noted Peter Q. George (K1XRB), "that it was the brainchild of some Syracuse University communications students who used some equipment normally used for closed circuit broadcasts on Channel 7 on the university's cable system, and simply found the necessary means to amplify the signal and send it on its merry way via a makeshift antenna cut for Channel 7."

George speculated that this was done with a Blonder-Tongue type cable modulator (tuned for VHF Channel 7) as a crude exciter fed into a two-stage RF amp.

Rob Jason posted that he'd heard that the pirate(s) "actually built a VHF transmitter" for their stunt. He recalled having caught Lucky 7 on "a 1969 Panasonic B&W portable with a one-pole antenna. I saw it in Liverpool, New York, maybe four miles from S-U as the crow flies," Jason said. "The signal was very poor. I could not get audio, and it was snowy."

George conjectured that whatever amplifier the Lucky 7 conspirator(s) used "was not linear enough to handle all 6 MHz of a VHF TV signal. It probably favored the video carrier more than the audio."

No matter the flimsy picture and bad sound, Lucky 7 generated a lot of media news coverage and folks hoping to snag a flicker or two of it so that they could say they did. "The funny thing was, however," concluded *radio-info.com* contributor, George, "the FCC didn't get any complaints from the viewing public until after the (three-night broadcast) stint of Lucky 7 ended!"

When Joanie Ingersoll's boyfriend saw a mention of the pirate's foray into porno movies in the newspaper, he wondered if that was what she and his mother had witnessed on TV. "April fools!" Ingersoll laughed, then heard the boy's mom clarify, "Maybe we watched it . . . Maybe we didn't."

'I've Been Punked, Broadcast Pro-File Style!'

It is quite possible that radio historian, Jan Lowry knew I'd jump on a fascinating station history he happened to submit for my consideration right before this April column's deadline . . .

He is well aware of my fetish for accounts of short-lived broadcast facilities in obscure places. KIAF, a long-defunct AM with a two paragraph past certainly fit the bill. Here's how Jan immortalized it:

"A new radio broadcasting station was licensed at Sihtypoc, Minnesota (in Steele County) in the fall of 1927 to a local firm, the Steele Company. It was granted a 500-watt operation on 710 kilocycles. The call letters assigned by the Federal Radio Commission were KIAF. The beginnings of KIAF are dimmed by the passage of time so that most of the early facts of the station can be given only with approximate certainty.

"Its air slogan, used in late 1927 was 'Far from the maddening crowd.' The broadcasts put on by KIAF were not popular with Minnesota 'etherites,' so the station was removed from

the air in early 1928. Its license was returned to the FRC for cancellation in the early summer of 1928."

As it's uncommon for Jan's station histories, even his briefest editions, to skirt so many details — such as why KIAF's programming was rejected — I resorted to pestering him for expanded explanation.

Fitting for an April issue, Jan's response caught me by complete surprise: "The KIAF Pro-File is a total fabrication," he admitted, but then vindicated the rouse with an interesting rationale. Jan noted a 1920s weekly "wireless" magazine titled, *Citizens Radio Call Book*. He cites it as having been "widely read in the U.S. and often used as a dependably rock-solid (calls/location/power/frequency) reference" for the growing legion of radio listeners and DX hobbyists. Its editors went to great lengths to keep current with the ever-changing broadcast station scene, so were at the ready to chronicle each new station authorization or shift in an existing facility's specifications.

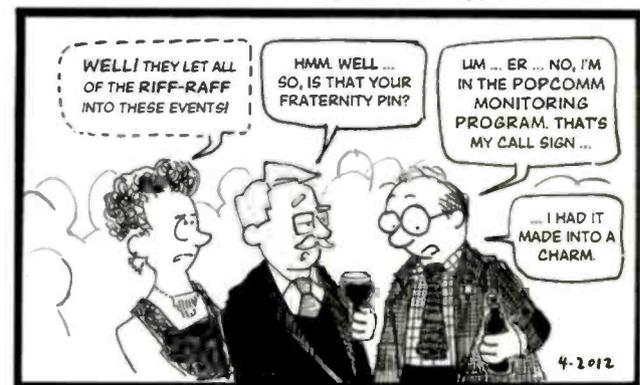
"As a result, the magazine's detailed listings often got pirated by other publications wanting to offer the station directory information without doing painstaking research. This was especially true with newspapers that tended to compose their local and DX radio listings with the purloined aid of whatever appeared in the latest edition of *Citizens Radio Call Book*.

Magazine officials devised a way to catch the copycats: They inserted non-existent KIAF of Sihtypoc, Minnesota. Backwards, the midwestern community's name spells "copy this."

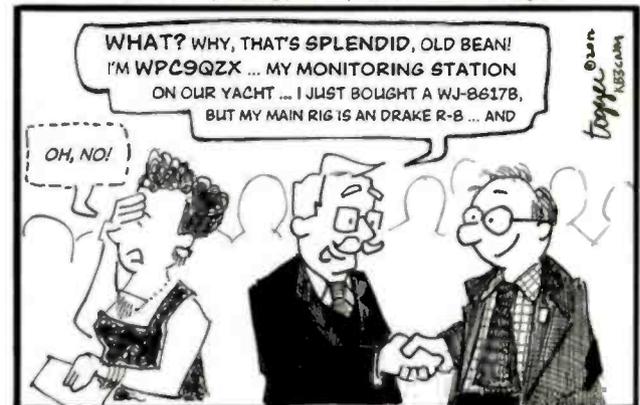
An inversion of KIAF is FAIK or "fake." And the station's owners, all principals of the Steele Company, would probably not be too happy with those who stole their poor little AMs listing. KIAF was *Citizens Radio Call Book's* trick for fooling careless competitors with a totally bogus station.

And so ends another day of broadcast history on Pop'Comm . . .

SPURIOUS SIGNALS By Jason Togyer KB3CNM



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Radio Rescue: A Million 'Final Touches'

Part II: 300+ Hours of Painstaking TLC Rekindled the Glamour and Glory in This 1934 Atwater Kent 206-X

by Manfred Mornhinweg

"The actual work took every bit of my spare time for about four months . . . making this the most time-consuming restoration since I started this hobby."

With the 1934 Atwater Kent 206X vintage receiver working again, as chronicled in the March edition of *Pop'Comm*, it was now time to turn attention to the battered cathedral-shaped box the circuit lived in. There would be a lot to do before restoring the radio to its original look, **Photo A**.

Turn, Turn, Turn . . .

First, though, my radio had no knobs. But fellow collector Renato Menare has an Atwater Kent 206-D, which despite not being complete, does have most of its original knobs! I borrowed his knobs, and copied them on the lathe, making all the knobs my radio needed, and those that were missing on his, **Photo B**.

The original knobs were made of a dark wood. It might be walnut, but I don't know. Anyway, I don't have any dark wood like that available here. Whatever I used, I would have to dye it. Looking around for something suitable, my eye fell on the humble broomstick in the corner of my workshop. That broomstick was really begging me for the honor of donating part of itself to the Atwater Kent legend.

I grabbed the hacksaw and a minute later the broomstick was 20 centimeters (about 8 inches) shorter, and my lathe went to work on the donated organ. It transformed the broomstick piece into one and a half sets of accurately original Atwater Kent radio knobs.

The knobs got brass inserts with set screws. Of the original AK knobs, only the two concentric ones on the tuning shaft have set screws, while



Photo A. Manfred Mornhinweg, an expert in radio restoration living in Chile, spent four months and more than 300 hours bringing an Atwater-Kent 206X receiver to show window quality. (Photography courtesy of Manfred Mornhinweg)

the others are simply pushed on. But with the heavily rusted shafts of my radio, push-on knobs weren't a good idea. I fitted all the new knobs with set screws. That's also easier to make than spring-loaded inserts.

Photo C shows one each of all four different knobs this radio uses. The band switch and tone switch each use one like that in the upper right. The tuning shaft is double concentric, for the vernier drive, and uses the lower right knob for fast tuning and the lower left one on top of it for fine tuning. The volume control, for sym-



Photo B. Knobs were borrowed from an original Atwater-Kent 206-D receiver, which were used as a guide. "A humble broomstick" was sacrificed to reproduce new knobs on a lathe.

metry, uses a single knob in the same shape as the two tuning knobs combined. What a fancy way of maintaining symmetry. It shows the Atwater Kent philosophy to perfection!

Over, Under, Upside Down

In **Photo D**, you see the cabinet, more or less as I got it. When the picture was taken, it was upside down, in the process of being re-glued. The entire lower section had come apart, and every single layer of plywood had complete freedom. The whole box was a very weak affair.

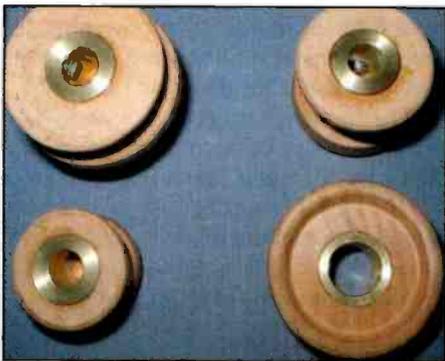


Photo C. Four different knobs are used on the AK 206-X. The band switch and tone switch knobs are replicated on the upper right. The tuning shaft is double concentric, so for the vernier drive, the lower right knob is used for fast tuning and the lower left knob is used on top of it for fine tuning. The volume control, for symmetry, uses a single knob in the same shape as the two tuning knobs combined.



Photo D. Mornhinweg said this is how the cabinet looked, "more or less as I got it. When the picture was taken, it was upside-down, in the process of being re-glued . . . The whole box was a very weak affair!"

I had to wiggle glue into each of the narrow slits between each layer of plywood and its neighbors, and then compress the sandwich to re-glue it all. Wooden blocks were wrapped in kitchen plastic and used as pressure pads. The plastic won't bind to the glue.

Note the red paint marks around the hole for the bandswitch. This radio must have had a forgetful user. He painted the positions for long and shortwave in red paint over the radio!

After re-gluing all loose parts, and replacing a section of veneer that was

missing from the back of the rim, the detective work started. Too often I have refinished radios, only to find that they ended up beautiful, but far from their original look. With this nice radio, I absolutely wanted to make it look as original as I can. But that isn't easy!

For example, the backside is painted black, no doubt about that — **Photo E**. The stripe along the molding looks black too, while the rest is walnut brown, except where no finish is left. So, was the black stripe made with the same paint used on the back? Apparently not: The paint on

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Photo E. The backside is painted black. "The stripe along the molding looks black too, while the rest is walnut brown, except where no finish is left," Mornhinweg writes. "So, was the black stripe made with the same paint used on the back? Apparently not: The paint on the back dissolves very quickly . . . while the black stripe was very slow."



Photo F. Here is the detail of the left column. Mornhinweg suspects it had black dye in most of it, but brown at the sides (left side here). "All of that remains only in the low areas; at the raised areas the finish was totally worn off. Later, someone painted over it all, with yellowish brittle stuff."

the back dissolves very quickly in lacquer thinner, while the black stripe was very slow to dissolve.

Clearly, the black stuff in the stripe is different from the brown further up. But is it a different lacquer, paint, or just a thicker layer of lacquer? And what dye did they use?

Note the unglued plywood and veneer. The photo was taken before re-gluing.

Photo F shows the detail of the left column. It looks like it had black dye on most of it, but brown at the sides (left side here). All of that remains only in the low areas; at the raised areas the finish was totally worn off. Later, someone painted over it all, with yellowish brittle stuff.

Race to the Finish

I took samples from various parts of the finish, **Photo G**, analyzed them,

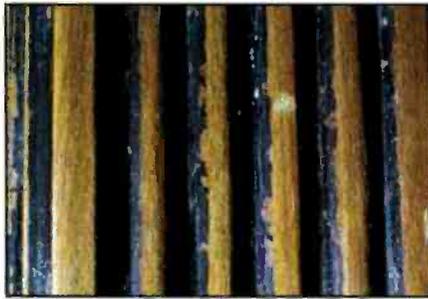


Photo G. Mornhinweg took samples from various parts of the finish, analyzed them, looked at them under different lights . . . "and it was puzzling at best." He believes Bitumen of Judea was used as a dye, and applied it both as a paste filler . . . "and mixed with the lacquer that was sprayed on."



Photo H. "With lots of patience and an activated charcoal respirator," Mornhinweg writes, "I dissolved all that stuff and cleaned it away, with rags, paper towels, and plastic tools."

looked at them under different lights . . . and it was puzzling at best. The idea I got is that these guys used Bitumen of Judea as a dye, and applied it both as a paste filler, probably by hand with a rubbing pad, and also mixed with the lacquer that was sprayed on.

If anyone knows what materials were used in the Atwater Kent factory, and on old radios in general, I would love to hear about it.

Anyway, the finish had to come off. It was much too unevenly damaged to even think about saving it. I applied a mix of solvents, and slowly the stuff came off. I discovered that the radio had been painted over at least two times, apparently one time with a mystery mixture and the other time with a modern varnish. One of the painters had tried to remove the dark finish, scraping parts of it away with a sharp tool, and leaving the rest. It looked horrible. The other painter had just brushed varnish over everything, even the escutcheon and the dial window! Fortunately, the grille cloth escaped his brush.

With lots of patience and an activated charcoal respirator, I dissolved all that

stuff and cleaned it away, with rags, paper towels, and plastic tools, **Photo H**.

Under the very bad finish was an almost perfect wood surface, **Photo I**. The veneer on the sides and top was perfect except for one small notch. The veneer on the front had a few dents, but they came out beautifully with water. The moldings on the sides were heavily damaged: Someone had driven large nails to them, in diagonal, to fix the radio to the desk! Either he used it on a boat, or he was very afraid of thieves. I had to fill the nail holes with putty.

The columns were somewhat damaged from the impact of assorted objects. I reconstructed the worst areas with putty, and left the rest for the paste filler.

The moldings on the sides and front are made from different kinds of wood. The one on front is much better quality. This makes it clear that this cabinet was intended from the start to be finished in a quite dark tone, the only way to disguise the different sorts of wood.

Bitumen of Judea, Staining and Color

The next step was paste-filling the wood. I prepared a filler from standard, colorless wood filler, mixed with a considerable amount of Bitumen of Judea. It produces a tarry black paste that beautifully fills the pores of the wood with an almost black tone, while giving a slightly more reddish than walnut color to the rest of the surface.

Then I smoothed the surface using very fine steel wool. The wood filler is formulated to be easy to sand away, and leaves the wood as smooth as baby skin. This is very necessary because the walnut veneer has large pores, and the side moldings are made of a cheap wood that is very coarse. But sandpaper is too coarse a tool here. The steel wool is just right. It also gets better into the corners and the shape of the columns.

Photo J shows the cabinet after smoothing it. I have seen many people who reach this stage say, "wow, that's beautiful," spray on a coat of clear lacquer, and assemble the radio. The Web is full of such improperly restored radios!

The next step in a correct restoration is staining. Finally, I found a walnut stain that can be dissolved in lacquer thinner. I used this stuff to dye some lacquer, and sprayed several layers of it, masking areas as required, to get all the colors as close as possible to the original. While working, I used calibrated photos of my radio



Photo I. Beneath an awful finish, "was an almost perfect wood surface," Mornhinweg said. "The veneer on the sides and top was perfect except for one small notch. The veneer on the front had a few dents, but they came out beautifully with water."



Photo J. After smoothing the wood, "I have seen many people who reach this stage, say, 'Wow, that's beautiful,'" Mornhinweg, writes, and then "spray on a coat of clear lacquer, and assemble the radio. The Web is full of such impeccably restored radios!"

before stripping, of Renato's radio, and some photos which I found on the Web, showing unrestored radios of this and other models, which came in the same cabinet. After lots of work, I think I have come rather close to the original colors!

The knobs were soaked in walnut extract, then given the same treatment as the cabinet, starting from the paste filling step.

Photo K shows the radio in its final colors, before spraying on a few dozen thin coats of clear lacquer, which are necessary to give it a hard, abrasion-resistant surface.



Photo K. Here's the Atwater Kent 206-X in its final colors, "before spraying on a few dozen thin coats of clear lacquer, which are necessary to give it a hard, abrasion-resistant surface," Mornhinweg said.



Photo L. At last, here's the completed AK 206-X. Or is it? Mornhinweg found that there was yet more to do.

At last, the completely restored radio!
Photo L.

Finished? Now, Hold On a Minute . . .

But I had to do a few more things — easy things, really — before reaching *mission accomplished*. One was restoring the escutcheon and crystal. Some earlier restorer had brushed varnish over both. The varnish had attacked the celluloid window, and glued everything together.

I separated the window from the frame by mechanical means, soaked the frame in paint remover, and polished the window with 3M polishing compound — medium grade first, then fine grade. It came out good enough, if not perfect, and certainly better than replacing it.

The brass escutcheon apparently was originally stained black by a chemical process. Someone later scraped away most of the black, probably thinking the escutcheon was originally bright metal. I had to give it back its color. But chemical stains work by attacking the metal. That's fine in a well-controlled factory process. But to restore an antique, I prefer something that's reversible if it goes wrong. So I sprayed it with black paint, then cleaned the paint off the raised areas, and then sprayed it with clear lacquer for protection.

Using natural walnut extract for the power cord seems to have been a bad idea — in **Photo L** it looks too light. But *in natura* it looks quite good. Anyway, next time I will use a stronger dye. Note the power plug. It's courtesy of Renato, once again. I don't have a guarantee that it is like the original this radio had, but it belongs roughly into the time, and is *U.S. made for export*.

The antenna and ground wires are true, real, original 2004 vintage fabric covered wire: I bought an assortment of strings and cords in a small store devoted to selling sewing supplies, extracted the core of them and used the sheath to cover some thin wires.

The grille cloth was in quite good condition physically. Only the lower ends were frayed, because the earlier restorers didn't bother to fix the backing to the cabinet after putting the cloth and speaker back in. So the cloth flapped with the vibration of the speaker, and frayed.

But you have to look very closely to notice that, so I don't consider it a problem. The bad thing with this cloth was its color: It had faded so severely that it ended up almost white. The radio must have spent a long time in the sun. The

THE LIGHTER SIDE (from page 69)

Landing so close to the beach that he “had one wing over the cliff,” Quesada had his ground radio operators on the air as soon as possible. Several days after the landing, General Dwight Eisenhower was on his way back to Britain and asked to contact General Omar Bradley so he could give his arrival time to headquarters. General Quesada said that would not be necessary because his landing fields — nine built by the end of June — were in radio contact with Allied Headquarters in London.

Q: *When did America start using radio broadcasts to affect morale in the Pacific War?*

A: Large San Francisco radio stations at full power were easily heard in the Philippines, China, Burma and Australia. The Office of War Information produced a daily news program called “*The Voice of Liberty*.” The programs were distributed to the stations in 1942. These popular shows were heard by servicemen, POWs and resistance fighters all over the Pacific. The Japanese carried out heavy reprisals — usually death — for anyone caught listening to the program.

Q: *Is clandestine radio used for more than propaganda purposes by resistance and opposition movements?*

A: *Definitely!* Coded messages and orders to resistance groups are often passed on to listeners of the same political persuasion. They are used, as well, to subtly show the opposition flaws in their systems of operating. During Israel’s fight to become a nation, the protection arm that kept the kibbutzim and other terror targets from harm was called the Haganah (underground defense) and did a lot of fighting to bring about the dream of a Jewish homeland.

The intelligence unit of the Haganah was called the Shai or Sherut Yediot (information service). Like many elements of Jewish underground units, the Shai had its own clandestine radio station. To demonstrate to the British how compromised the Brits’ intelligence system was, Shai broadcast the contents of the British files on the Haganah and members of the Jewish underground. This spy coup, broadcast in 1946, led the Intelligence Chief of the British Army in Palestine to describe the Shai as “a perfect intelligence system.” Shai was abolished in July 1948 when Israel, at last, became a nation.



Photo M. From this inside view, the restored Atwater Kent 206-X “looks like a reasonably-well-treated 70-year-old radio,” Mornhinweg writes.

areas protected by wood had a very much darker color, which I assume is the one the cloth should have.

My solution to the problem was spraying the cloth with highly-diluted Bitumen of Judea. It nicely gave the cloth a color that’s reasonably close to the original, complete with some of its sheen.

The cloth is made of two different kinds of fibers, which accept the color differently, so even the texture of the cloth was recovered. And since these are natural fibers, using lacquer thinner instead of water to carry the dye avoids shrinkage and dulling of the cloth. This rejuvenating treatment was carried out without removing the cloth from the backing.

A Rearview Window

Photo M gives an inside view. The most non-original parts on the chassis are the two tube shields on the left. Unfortunately, this radio had only one of the original three golden tube shields left. So I used standard shields, straight out of Renato’s stock, at least as a provisional solution until I find the originals, or make replicas.

My new power transformer seems to be a tad larger than the original, but not enough to look out of place. The electrolytic capacitor on its left side is not nearly as long as the original, but — considering that the original was no longer there, and that I had this capacitor which

fit the hole, had the correct capacitance and voltage ratings, and was in perfect condition — I used it.

The triple electrolytic is still there, but totally dead, so it’s disconnected. Small modern caps, well hidden under the chassis, do the work. I decided in favor of this solution, rather than cutting the old cap open and installing the new ones inside. That can always be done later, if the next restorer 70 years from now decides to do so. But turning back is not possible, after cutting that capacitor open.

There are specks of rust on some places, and I did not redo the paint job on the speaker structure. So the radio does not look new. It looks like a reasonably well-treated, 70-year-old radio inside. The chassis has rust only where it has been deeply scratched. The rest is impressively shiny, a result of Atwater Kent’s nickel-over-cadmium plating.

On the outside, of course, the new finish is obvious. But considering the condition of the old one, there was no choice.

Restoration Reprise

Restoring this piece of radio history was a long process. From the moment my friend and colleague Alain Maury got me this radio, two years passed with no activity other than gathering the parts and information needed for a good restoration, and thinking about how I would do each part of the process.

Then, the actual work took every bit of my spare time for about four months! That’s well over 300 hours of work, making this the most time-consuming restoration since I started this hobby. I don’t regret it — any time spent working on an Atwater Kent radio is time well spent!

My thanks go to Alain, his former landlord (who gave me the radio, but whose name I do not know) to Renato and everyone else who helped me getting parts, information and the courage to rescue this fine piece of radio history!

(Manfred Mornhinweg, 46, is a native of Chile. He built a steam turbine at age 7, a pivoting piston steam engine at 9, and an electric motor at 10. He built his first radio at age 12 and was a licensed radio amateur at 15. In addition to vintage radio restoration, Mornhinweg pursues photography, music and woodworking, “after having largely abandoned model airplanes, paraglider flying and mountain climbing. I also do some freelance work in electronics.” To access Mornhinweg’s website, visit: <<http://ludens.cl/Index.html>>. — Ed.)



Figure 2.

been authorized — setting the foundation for a monitoring community so many *Pop'Comm* readers have been clamoring for.

If the *Pop'Comm* certificate looks like those issued under *Popular Electronics* magazine's *WPE Short Wave Monitor* program of 50 years ago, **Figure 2**, that's no accident. It is modeled on the certificate sent out to *WPE* monitors by the late **Tom Kneitel, WPE2AB**, who went on to become founding editor of *Popular Communications*.

We honor him through this imitation and will be announcing soon a design contest for the 2013 *Pop'Comm Monitoring Station* certificate. *Stay tuned!*

Meanwhile, if you have not come aboard this new, exciting *Pop'Comm* program, you can get full details in the January 2012 edition of *Popular Communications*. You're invited, as well, to visit *Pop'Comm Monitors On the Web* for a tutorial on how to register for the program, receive a station ID sign, and fill in and download a Certificate of Registration suitable for framing: <<http://www.PopCommMonitors.blogspot.com>>. While you're there, please take a look at the program's online Station ID Database: <<http://bit.ly/wj9xoi>>.

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— Richard Fisher, KPC6PC/K16SN

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A Fine Line . . . A Very Fine Line

by Bill Price, N3AVY
<chrodoc@gmail.com>

"I used to think I was the only one who checked the accuracy of his watch almost every hour. Not so."

It has been said (by a good friend of mine) that there is a fine line — *a very fine line* — between a hobby and an obsession. Or insanity. I can't remember which. Today, the phrase OCD — obsessive compulsive disorder — came to mind. *It hit home.*

A long time ago, in an ocean far away, on a leftover U.S. Navy seaplane tender painted white and given to the Coast Guard, our little radio shack got a *frequency counter*. It was a genuine Hewlett-Packard frequency counter with a whole bunch of nixie tubes (if I remember correctly).

For many mid-watches, I would spend all the quiet moments calibrating my RCA "TAJ" transmitter to 500 and 466 Kcs — the forerunner of kilohertz, KHz.

The transmitter, also leftover from a former life, drifted like a rowboat in a stiff wind. My watch supervisor watched me the way a parent watches a child discovering that you can't baptize a cat. I eventually gave up, and just went back to calibrating the mechanical dials of our trusty R-390 receivers. I would even get annoyed when I had to stop my playtime and answer a call from a merchant ship.

My first digital wristwatch was advertised to be accurate to a second per month. I checked mine frequently (a little *too* frequently according to my friends) against WWV (Fort Collins, Colorado) and CHU (Dominion Observatory, Ottawa Canada).

It was off by more than a second per month. I can't remember if it was fast or slow, but that's not what was important. I cannot tell you how many of these watches I returned to the store after 30 days, assuming that eventually I could get one that was off by less than a second per month. I never did. No one in the digital watch factory was very concerned with setting them very precisely.

Eventually, I learned that there was a setting inside the watch that could make it run faster or slower — something to do with the frequency of the oscillator. I was then *certain* that I could soon adjust the watch so that it eventually rivaled the cesium standard.

You can't do that with the tip of a ball-point pen.

I don't believe I've ever learned to just leave stuff alone.

Tuning a transmit antenna for the theoretical 1:1 SWR (standing wave ratio) was another hobby of mine. I hardly ever worked any stations, but the output port of my transmitter surely saw an impedance very close to 50 ohms. Then a friend spoiled it and told me that the tuner did nothing to the antenna or its ability to radiate any better, but it made my transmitter happy.

My old cowboy acoustic guitar sounded OK, but a little tinny. Once I became *electrified*, I noticed that it never seemed to be quite "in-tune," and when the low notes were in tune, the high notes were off. New strings. Bridge adjustment. More tuning, less playing. A pattern was developing.

Another friend keeps a shortwave receiver near his favorite chair. I used to think I was the only one who checked his watch almost every hour. *Not so.*

He was the first person I knew who got a *self-setting* watch. He never wore it. It rested permanently on a windowsill facing Fort Collins. He only removed it to check the watch on his wrist — non-self-setting — and to see that the *windowsill* watch had been recently synchronized against the Rocky Mountain cesium standard.

Apparently, the watch would not synchronize itself often enough for his liking. Considering he only left the house to check the mailbox, and never stopped and knelt toward Colorado, I guess that was to be expected.

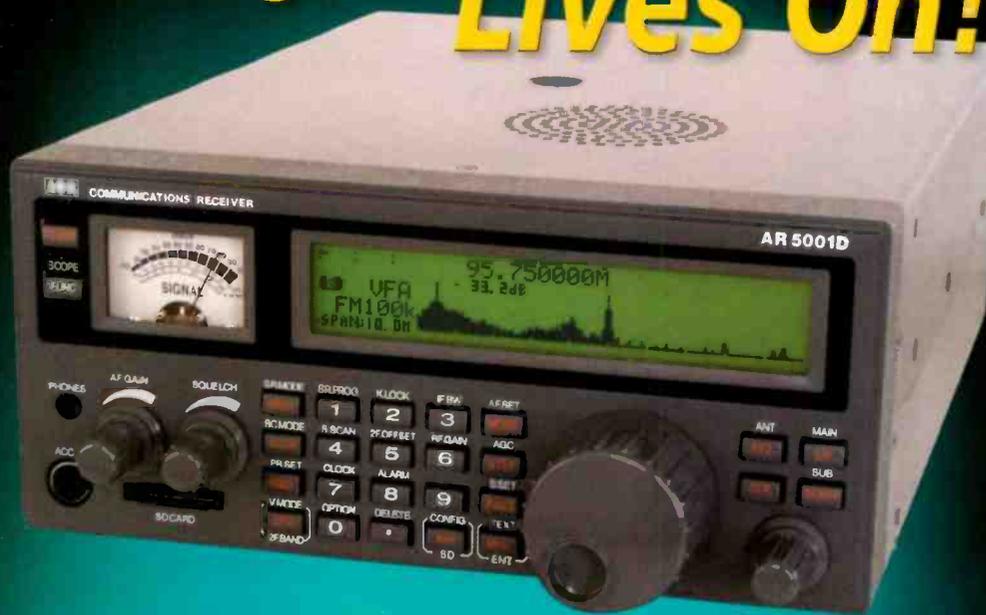
I, too, have gone through several of these *self-setting* clocks. I was sure that the wood-framed fiberglass building we were in would allow the signal to reach the clock. I was *once again* wrong. Each time I went to the uplink I would have to take the clock outside, hang it from a small tree and wait for it to tell me that it couldn't receive its synchronizing signal. Then I would go inside and call the U.S. Naval observatory and set the clock the old fashioned way.

I often think that my time would have been better spent at a *naval* observatory, pondering something more worthwhile.

(Bill Price is still on a work-release program from the Cowfield County Home for the Silly, where he sets the clocks and has been trying to tune the piano for several years. — Ed.)

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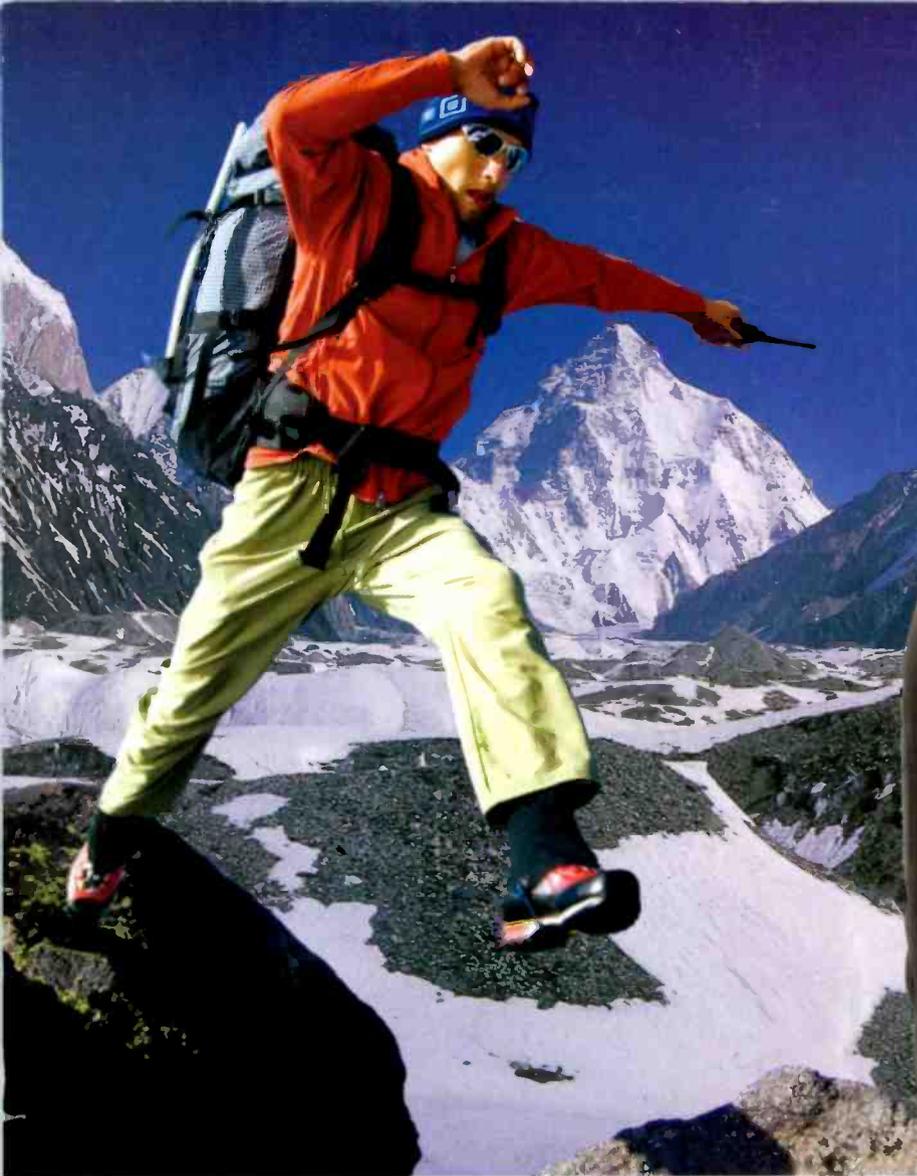
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