Getting A Great Shape-Factor! The Importance Of IF Filters For Broadcast DXing...pg. 52

H.A.A.R.P. Secrets...pg. 12

U.S. Targets China On Shortwave From Saipan And Tinian Islands...pg. 6

Add A FREE Search Tool To Your Website...pg. 66
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6 A Pop'Comm Exclusive: Inside Radio Free Asia
Tiny Tinian And Saipan Target China On Shortwave
by Grant Bingeman, P.E.

24 You've Recently Told Us...
Survey Results
by Harold Ort

52 Broadcast Technology
The Importance Of IF Filters For DXing
by Bruce Conti

12 A Trip Through H.A.A.R.P. Reveals Some Secrets
Radio Resources

The Wireless Connection

26 Follow The Money
On-The-Go Radio

30 What GOES Up, Images Must Come Down
Space Monitor

36 The Loop Antenna Revisited--With A Twist
Antennas & Electronics

38 New York Passes Cell Phone Law
Washington Beat

40 Navigating International SW Bands The Easy Way
World Band Tuning Tips

44 Scanning The Mail, And Frequency Contest Update
Overheard

49 Another Anti-Ethiopian Clandestine YOU Can Hear!
Clandestine Communiqué

50 Almost Anything Goes At Nevada's First Radio Station
On The Internet: Pahrumpradio.com!
iWaves

56 Alaska's LORAN Chain
Plane Sense

60 How To Break The BBC Habit
Global Information Guide

66 Resource Of The Month: PicoSearch.com--Add A Free
Search Tool To Your Website
Radio & The Internet

68 Tons Of Logs—Ten-Tec RX320 NEXT Month!
Utility Radio Review

77 Bill Just Keeps Getting Looser
Loose Connection

Departments
4 Tuning In — An Editorial
35 VIP Spotlight
42 Power Up: Radio & High-Tech Gear
76 Our Readers Speak Out — Letters
78 Readers' Market

On The Cover
Chris Justice, C. Crane’s chief engineer, is working on a radio he helped design. This month, in Bruce Conti’s Broadcast Technology column on page 52, read all about IF filters and Kiwa Electronic’s new filter upgrade kit for the C. Crane CCRadio (Photo by Larry Mulvehill.)

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Tauzin’s Dingell Shrivel

You knew it would happen eventually. Despite all the efforts of the nemesis of radio hobbyists, Billy Tauzin, and his friend, Rep. John D. Dingell’s the Internet Freedom and Broadband Deployment Act of 2001 otherwise known as H.R. 1542, a bill that would have essentially prevented competition in the broadband telecommunications industry, has hit a major roadblock. It’s not so much really, that I’m surprised that a worthless Tauzin bill may be met with defeat, but rather that even this one was introduced by Billy in the first place.

H.R. 1542, the Tauzin-Dingell bill, was of course staunchly supported by the Bell monopolies, and should more than raise the eyebrows of every American consumer and small business owner, who should consider this a personal slap in the face by big business and Tauzin.

Looking at the 1996 Telecommunications Act, the current Tauzin-Dingell bill, according to official testimony from Rep. John Conyers, Jr. (Mich.), “It permits, Tauzin does, the Bells to provide long-distance data services before meeting the competitive checklist in Section 271 of the ‘96 Act. Can’t do that, fellows. Cannot do that. You cannot modify the ’96 Act on this very, very important provision.”

Hence Conyer’s—and others—official testimony before the House Committee on the Judiciary and their amendment designed to halt H.R. 1542 in its tracks.

He continued, “And in addition, Tauzin eliminates the Attorney General’s historic role in identifying anticompetitive behavior by the Bell companies, and that’s what this amendment tries to do, merely to restore the Attorney General’s role by requiring the Bells to demonstrate that they have opened their local telephone monopoly to competition before they can offer long-distance services. What’s wrong with that? It’s the current law as it presently exists, and as many of you on the Committee know, this amendment only goes a small part of the way in trying to repair the product we’ve got from the Commerce Committee.”

Even if amended, he noted, the Bells could still “abuse their power” and deny competitors “access to the local loop.”

It’s high noon in D.C. and high time for folks, in and out of public service, to stop having to clean up Cousin Billy’s do-do. As Rep. Conyers said in his testimony about H.R. 1542, “Bad deal.” That it is, and not keeping local markets open to competition, while not giving away the Internet to the big monopolies as Tauzin and his cronies would like, should be a prime concern of every American simply because it’s a subject that touches everyone’s life. Certainly the Tauzin-Dingell bill is deregulation, but it is obviously seriously flawed deregulation.

Rep. Chris Cannon (Utah) puts it this way, “...it will create blackouts in competition on the nation’s information superhighway.”

H. Russel Frisby, Jr. president of the Competitive Telecommunications Association (CompTel) says, “...this bill is on a collision course with a serious anti-trust lawsuit. The Judiciary Committee knows it, competitors know it, the states know it, the capital markets know it, and most importantly, American consumers know it.” He continued, “We simply must not allow everything we love to hate about our local Bell monopoly become everything we hate about the Internet.”

In case you’re asking what this has to do with radio and our hobby, the answer is plenty! As we evolve into a more Internet-based and wireless society where, as columnist Joe Cooper points out regularly in his “Utility Radio Review,” more and more of our radio “monitoring” will not only be computer-based and black box/software driven, it will also require fast, reliable access to the Internet for the downloading of software, frequencies, sharing of files and information that can only be done quickly and efficiently if consumers are given a solid infrastructure and competitive, reliable access to the so-called Information Highway. Clearly, the Tauzin-Dingell bill would derail the competition (Continued on page 78)
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Tiny Tinian And Saipan Target China On Shortwave

By Grant Bingeman, P.E.

Tinian and Saipan are two of the three islands of the Northern Marianas Islands in the Pacific, about 3,300 miles from Honolulu. When most people think of Tinian, it's role in World War II comes to mind, and especially the B-29s stationed there and the Enola Gay superfortress bomber. Today, it's home to about 1,000 people and Radio Free Asia, which operates from the islands of Tinian and Saipan and beams toward China, providing an alternate news source in Mandarin and Cantonese to the state-controlled news throughout Asia. The VOA also targets China, South Asia, and Indonesia from Tinian and Saipan with additional programming. The official IBB station name is Northern Marianas Islands Transmitting Station. This station operates three Continental Electronics 100 kW type 418 shortwave transmitters on Saipan. The new Tinian site includes two 250 kW 419F2 Continental transmitters, plus six 500 kW ABB SK55-2C-3P transmitters. Mr. Gary Shirk is the IBB Station Manager, and Mr. Henry Briley is the IBB Construction Manager. Tinian is close to Saipan, so the Mariana Islands station actually operates from two sites.

The Broadcasting Board of Governors (BBG) was created in 1994 to oversee all United States government sponsored international broadcasting, including Radio Free Asia (RFA), the Voice of America, Radio Free Europe/Radio Liberty (RFE/RL), WORLDNET Television, and Radio and TV Marti. Under the authority of the BBG, the International Broadcasting Bureau (IBB) oversees the broadcasters, which are funded through Congressional appropriations, i.e., VOA, WORLDNET, and Radio and TV Marti. RFE/RL and RFA are private corporations, which are funded by grants from the BBG of appropriated funds. The IBB's engineering division is a consolidation of former VOA and RFE/RL stations and personnel.

Broadcasts Began Almost Two Years Ago From Tinian

The first official broadcast from Tinian was made on January 15, 1999. Tinian and Saipan are near Guam, which is south of Japan and East of the Philippines. Tinian is a very small island just off the West coast of Saipan, accessible by small plane or boat. In bad weather boat service is suspended, but the small planes usually continue. There is one large casino hotel on Tinian called the Dynasty, and a few small hotels.

Most tourism centers on Saipan, which is to Japan as the Caribbean is to New York. Yes, there is a Hard Rock Café in Saipan. Today, feral cats and rats inhabit the old airfield ruins. A few commemorative plaques can be found in the middle of the old airfield at the North end of the island on Tinian. The main town is at the south end of the island.

The Tinian shortwave curtain antennas were made and erected by Telefunken, a division of Continental Electronics. The prime contractor at the site is SHBC's Raymond Chihwaro, who made it all happen. There are 11 shortwave antennas at Tinian, with bore-sight bearings from NW to NNW. Each bearing has

A map showing Tinian and Saipan in the Northern Marianas, courtesy of the Marianas Visitors Authority on Saipan.
**TIN-01, TIN-02 and TIN-03 BROADCAST SCHEDULE**

**EFFECTIVE 21 JANUARY 2001 with END of OM 009**

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The latest available shortwave schedule provided by the IBB. Officials told us that the Chinese regularly jam the broadcasts and because of last-minute changes, even the IBB officials don't get the exact schedules/frequencies until the last minute.
a low-band and a high-band antenna, but NNW also has a mid-band antenna. All the bearings can be slewed +/- 24 degrees, except the NW antennas, which are limited to +/- 12 degrees. For a shortwave listener in North America, this means long path, multi-hop propagation. Probably your best chance of receiving a good signal in North America would occur when Tinian is operating 500 kW on the 6 by 4 bay antennas bearing NNW+, since this provides the highest gain and shortest path.

The curtain antennas consist of stacked dipoles in the following configurations, some of which are very tall. They are arranged in an arc around the site, which stands atop a bluff on the isolated northwest end of the island. Curtain antennas get their name from the reflecting screen behind the dipoles, which effectively doubles the number of dipoles. The image dipoles appear on the opposite side of the curtain from the real dipoles, spaced the same distance from the curtain. The phase of the reflected electromagnetic signal can be determined by inspecting the image model. For example, if a dipole is mounted a quarter wavelength away from the screen, the reflected signal will be 180 degrees out of phase with the direct signal.

### Tinian Curtain Antenna Configurations

<table>
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<th>Bearing</th>
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<td>high, low</td>
<td>4 dipoles</td>
<td>2 dipoles</td>
</tr>
<tr>
<td>NW+</td>
<td>high, low</td>
<td>4 dipoles</td>
<td>4</td>
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<tr>
<td>NNW-</td>
<td>high, low</td>
<td>4 dipoles</td>
<td>4</td>
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<tr>
<td>NNW-</td>
<td>mid</td>
<td>4</td>
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<tr>
<td>NNW</td>
<td>high, low</td>
<td>4 dipoles</td>
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<tr>
<td>NNW+</td>
<td>high, low</td>
<td>4 dipoles</td>
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</tbody>
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The curtain antennas consist of stacked dipoles in the following configurations, some of which are very tall. They are arranged in an arc around the site, which stands atop a bluff on the isolated northwest end of the island. Curtain antennas get their name from the reflecting screen behind the dipoles, which effectively doubles the number of dipoles. The image dipoles appear on the opposite side of the curtain from the real dipoles, spaced the same distance from the curtain. The phase of the reflected electromagnetic signal can be determined by inspecting the image model. For example, if a dipole is mounted a quarter wavelength away from the screen, the reflected signal will be 180 degrees out of phase with the direct signal.
ter-wavelength in front of the curtain, the electrical path length of its signal is a half wave to the image dipole, and a half wave from the image back to the originating dipole. Thus the reflected signal arrives in phase at the real dipole, thereby increasing signal intensity in front of the curtain, and decreasing signal behind the curtain.

A fiber-optically linked network of field computers controls and monitors the antenna high/low band switches and slew switches. The main antenna control computer is located in the station control room, and provides a Windows-type interface for the operators. The field computer programs are written in C and the control room program is written in LabView.

A high-power RF switch matrix to connect the various transmitters to the various antennas and dummy loads has a similar computer control operator interface, written in LabView. The Saipan site also has a Windows LabView interface.

Tinian is a part of the United States, so you can use regular U.S. postage when writing to the station to request information or a QSL card. Station Manager Gary Shirk is also an amateur radio operator (KE1AT) and can respond to your reception reports. His address is P.O. Box 504969, Saipan, MP 96950. You may also reach Ken Tripp of the IBB Tinian group via E-mail, Ktripp@mar.ibb.gov, but keep in mind that he is a busy man, and may not be able to answer all inquiries.

The current broadcast schedule is listed below. Note that limited programming is also available in Korean, Indonesian, Vietnamese, English, Laotian, Burmese, Tibetan, Khmer, Uyger, Chinese, etc. In other words, Radio Free Asia is just a part of the IBB Mariana Station programming.

**Editor’s Note:** A special thanks to George Woodard of Continental Electronics, Jameel Ahmed of SHBC, and Ken Tripp of IBB for their assistance in providing some of the information used in this article. IBB stands for International Broadcast Bureau, which is a United States government agency. The VOA is a part of the IBB. RFE/RL is also a part of the IBB, and now operates out of Prague. RL or Radio Liberty has had many different names over the decades, and originally targeted Russia, while RFE targeted the Eastern European satellite countries of the Soviet Union. Radio Marti, also a part of the IBB, operates from a site close to Key West and broadcasts toward Cuba.

Grant Bingeman is a Principal Engineer at Continental Electronics, and a registered professional engineer in the state of Texas. His amateur Extra call sign is KMSKG. He developed and implemented the antenna remote control software and hardware at Tinian. His colleague, Mark Wezensky, developed the switch matrix interface software and hardware. J. Fred Riley is the Program Manager for the Continental Electronics projects at Tinian, and also the Site Technical Manager for SHBC. George Woodard, P.E. is the Vice President of Engineering at Continental.

The IBB does not currently have a website with the latest Tinian information, but the following URLs are helpful: Continental Electronics: www.contelec.com and History of Tinian and Saipan: www.cnmi-guide.com/history/index.html.
The LCD
Big! Bold! Brightly Illuminated 3" by 31/2": Liquid Crystal Display shows all important data: Frequency, Meter band, Memory position, Time, LSB/USB, Synchronous Detector and more.

The Signal Strength Meter
Elegant in its traditional Analog design, like the gauges in the world's finest sports cars. Large. Well Lit. Easy to read.

The Frequency Coverage
Longwave, AM and shortwave continuous 100-30,000 KHz. FM: 37-108 MHz. VHF Aircraft Band: 118-137 MHz.

The Tuning Controls
• For the traditionalist: a smooth, precise tuning knob, produces no audio muting during use.

Ultra fine-tuning of 50Hz on LSB/USB, 100Hz in SW, AM and Aircraft Band and 20 KHz in FM.
• For Fixed-step Tuning: Big, responsive Up/Down tuning buttons.

For direct frequency entry: a responsive, intuitive numeric keypad.

These are the SATELLIT 800 MILLENNIUM's major features. For a detailed specification sheet, contact GRUNDIG.
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Knobs where you want them; Buttons where they make sense. The best combination of traditional and high-tech controls.

The Sound
Legendary Grundig Audio Fidelity with separate bass and treble controls, big sound from its powerful speaker and FM-stereo with the included high quality headphones.

The Technology
Today's latest engineering:
- Dual conversion superheterodyne circuitry.
- PLL synthesized tuner.

The Many Features
- 70 user-programmable memories.
- Two, 24 hour format clocks.
- Two ON/OFF sleep timers.
- Massive, built-in telescopic antenna.
- Connectors for external antennas - SW, AM, FM and VHF Aircraft Band.
- Line-out, headphone and external speaker jacks.

The Power Supply
A 110V AC adapter is included for North America (a 220V AC adapter is available upon request). Also operates on 6 size D batteries (not included).

Dimensions: 20.5" L X 9" H X 8" W
Weight: 14.50 lbs.
A Trip Through H.A.A.R.P. Reveals Some Secrets

One of the most exciting VHF and UHF radio reception may come from a summertime phenomena called Sporadic-E. This mode of ionospheric propagation may allow you to briefly pick up low-band 30 MHz-50 MHz state police radio calls for hours on end, with signals that may pound in for 2 or 3 minutes, and then for 30 seconds fade away into distortion, only to come back in again crystal clear for another couple of minutes crystal clear.

Up on high band, 140 MHz-170 MHz, Sporadic-E patches will sometimes lead to "short skip," where you end up receiving another CB base station 300 or 400 miles away, extremely loud and clear, well beyond ground wave, but too close for normal skip conditions.

These patches of super ionized E-clouds are not visible to the naked eye, but there are some ham radio operators who say they can spot those atmospheric conditions that may hint of a short skip band opening.

During the day, the ionosphere breaks up into 4 layers - the D layer, usually an absorption layer; the E layer, a great one to refract VHF signals over 1,000 miles; and the two F layers that ham radio operators love to enable their high-frequency skywaves to travel thousands of miles.

But back to the E layer which is a daytime ionospheric layer that hovers at an altitude between 50 and 100 miles up. It is at the perfect altitude to give us some exciting low and high-band VHF skywave reception during the summer months, peaking usually in the mid-mornings and early evenings.

Within the E layer are "super charged" patches of ionization, bringing intense VHF "skip" reception to scanner listeners as high as 250 MHz. This is the same skip that may give your TV set multiple pictures when hooked up to an outside antenna. Down on 27 MHz Citizens Band, these Sporadic-E patches will sometimes lead to "short skip," where you end up receiving another CB base station 300 or 400 miles away, extremely loud and clear, well beyond ground wave, but too close for normal skip conditions.

These patches of super ionized E-clouds are not visible to the naked eye, yet there are some ham radio operators who say they can spot those atmospheric conditions that may hint of a short skip band opening.

Some researchers feel that E-skip and long-range VHF skywave reception may occur because of wind shears aloft, creating friction and developing enough ionization to create that radio mirror that gives you VHF weather reception over a 1,000 mile path, lasting only a minute or two.


Up in Alaska, an organization called High Frequency Active Aurora Research Program (H.A.A.R.P.) has been on the air for several years exploring the ionosphere. At the Anchorage/Fairbanks Hamfest last September, I was invited to see the INSIDES of this fascinating operation, possibly in hopes of dispelling the mystery about what the scientists are doing and some of the results of their megawatts going into the sky. They were hoping I would have a better understanding for their operation, as opposed to some of the late-night shows claiming H.A.A.R.P. was some sort of secret spy program capable of bouncing signals off the ionosphere to count how many silver dollars you might have hidden under your mattress pad. And while H.A.A.R.P. does have some interesting capabilities to bounce radio signals off of the ionosphere and explore terrain, caves, and caverns, my introduction to their facility was some fascinating exploration of the phenomena of E-layer propagation.

"The H.A.A.R.P. program is committed to developing a world-class ionospheric research facility, consisting of a high-power transmitter system operating in the high-frequency range, and diagnostic instruments that will be used to observe the physical processes that occur in the ionosphere," comments Michelle Engebretson, a H.A.A.R.P. site coordinator I met on my visit. She's an employee of Advanced Power
Technologies, Inc., a non-governmental agency literally running the show during my visit. When you enter the H.A.A.R.P. facility, you don't get the appearance that there's anything governmentally secret going on here—no fingerprint checks, no background checks, and just about drive-on-in access to their concrete facility.

Inside the big building are racks of scientific instruments that study the earth's geomagnetic environment. Everything is constantly running to monitor naturally occurring variations that take place in our ionosphere. This building was originally built prior to the beginning of the H.A.A.R.P. program to house the power generation equipment for an Air Force over-the-horizon (OTH) radar installation. The 21,000 square foot building would contain a massive coal-fired steam generator that take place in our ionosphere. This building was originally built prior to the beginning of the H.A.A.R.P. program to house the power generation equipment for an Air Force over-the-horizon (OTH) radar installation. Each cabinet is capable of producing up to 10,000 watts of power. They blow cool Alaska air over the transmitter modules to dissipate the heat during transmit.

Huge racks of filters attenuate harmonics and spurious signals by at least 80 dB, and any spurious or harmonic above 45 MHz must be attenuated by at least 120 dB, and signals from 88 MHz to 200 MHz must be attenuated by 150 dB. The H.A.A.R.P. facility is keenly sensitive to that massive amount of transmitted power must be interfere with ongoing high-frequency communications.

**Can You Hear H.A.A.R.P.?**

When I asked what type of modulation one might expect to hear from the H.A.A.R.P. transmitters when energized, I was told that normally you couldn't even detect that it was on the air because of frequency hopping techniques, and the brief duty cycle that the transmitter was sending out a steady or modulated carrier. About a year ago, there was a test where the signals were sent on a specific frequency, and indeed, they could be heard all over the USA. But for normal scientific observations of the ionosphere, it would take a computer-controlled receiver to track the incoming reflected pulses.

But most impressive were the acres of a phased-array antenna system that conducts steerable radio beams to search the ionosphere. The antenna system is a rectangular Planar array of 180 elements, arranged in 15 columns by 12 rows, spacing between each element at 80 feet.

Each of the 48 elements are two crossed dipole antennas, oriented north and south, and east and west. There are separate crossed dipoles for the low-frequency 2.8 MHz-8 MHz bands, and slightly smaller high-frequency dipoles for 7 MHz-10 MHz. Each of the crossed dipoles are driven by a dedicated transmitter, two of which are contained in a transmitter cabinet. Thus, one transmitter cabinet is dedicated to one complete crossed dipole pair.

They may direct the antenna pattern with a beam width of 9-30 degrees, beam steering of 30 degrees from vertical. Computers in the main building allow technicians to steer the transmitted AM/FM/PM signal all over the sky.

I asked whether or not they could actually create an aurora, and they said that there was absolutely NO WAY man can do only what nature best. They said they have tried, but no visual sightings were seen.

For the reception of the signals back to earth, I ran into a little bit of mystery because the remote receiving sites were not described in detail—although I was assured that nothing CLASSIFIED takes place at the facility. I'm sure there are a network of Alaska receiver sites that all feed back into their computers to see the efforts of their high-power transmissions into the sky.

The skybound signals are partially absorbed at an altitude between 100 to 400 kilometers, depending on what frequency they are operating on. The intensity of the high-frequency signal in the ionosphere is less than 3 microwatts per centimeter squared, tens of thousands of times less than the sun's natural electromagnetic radiation reaching the earth, and hundreds of times less than even normal random variations in intensity of the sun's natural ultraviolet energy. In other words, when the H.A.A.R.P. facility is turned on, any reflections from the ionosphere won't be cooking us anytime soon.

This year there will be a campaign to discover more about high altitude Sporadic-E patches that show up quite nicely on some of their reception equipment in the concrete block house.
They can actually determine altitude of the Sporadic-E cloud, density, refractivity and reflectivity, direction of travel, and glean more information on what we down here on earth with our scanners take as just a freak condition of the ionosphere. I am told that the campaign will take place every day at noon, focusing on the 80-kilometer level where Sporadic-E clouds may be forming.

When I asked about whether or not radio enthusiasts could get in on the research details of their latest Sporadic-E campaign, I was told that scientific journals such as Journal Of Geophysical Research and Radio Science would carry some of their findings. In another year, relevant research results will also become available within the research section of the fabulous H.A.A.R.P. web site, www.haarp.alaska.edu.

I was reassured many times by H.A.A.R.P. personnel that there is absolutely nothing covert about its operation, but indeed the facility is capable of precise land mapping well over the horizon for scientists to see what’s happening with the ionosphere naturally, so there is no usual schedule of H.A.A.R.P. operation. Their operation must also be on a “not to interfere basis” to other high-frequency operators, and they specifically have locked out amateur radio frequencies because they do not wish to cause any type of interference to ham operators specifically monitoring for an extremely weak signal.

H.A.A.R.P. is soon to open a visitor’s center for radio enthusiasts to actually see the massive antenna system. H.A.A.R.P. will continue to build its web presence so that some of their experiments can be seen almost real-time on your computer. Again, log onto H.A.A.R.P. at www.haarp.alaska.edu. I found all of the H.A.A.R.P. personnel eager to talk about their experiments, and many of them are quite active in amateur radio and scanning themselves, and many are quite excited to be exploring all of the excitement of the E layer.
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- Digitally record up to 102 seconds of audio in up to 8 memories.
- Receive SSTV 56.7 kHz (external PC and software needed for viewing).

AMAZING AUDIO
With a new Fast Fourier Transform audio filter, the MMT applies DSP filtering and creates a more "natural" sound, phasing to the listener. Line enhanced noise reduction uses new algorithms to dramatically reduce background noise. An auto-notch function can be used to reduce or eliminate annoying interference. You won't believe your ears!

"HIGH FIDELITY" SSB
This is not a conflict of terms! AOR's unique technology derives unbelievable audio from a 2.4 kHz source in simulated stereo, through the provided headphones. The results are amazing and have been compared to "FM quality" reception. You didn't know your radio could sound this good. Just about everyone who hears it says, "Wow!"

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Built-in 100, 200 and 300 Hz audio band pass filters. Center frequency is adjustable from 800 Hz with 450 Hz pitch. There is also a special noise reduction circuit just for CW operation.

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The built-in band pass filter has independent outputs for the left and right channels, allowing independent bandwidth settings heard through the included stereo headphones.

DIGITAL MODES WITHOUT A PC
Receive and display PSK31 and RTTY (Baudot) modes without the need for a PC. AOR's MMT displays text on its easy-to-read LCD display. PSK31 formats include BPSK and QPSK. RTTY operations include 170, 425 and 850 Hz shifts.

PC INTERFACE
The MMT has a rear panel DSUB9 connector and a serial cable is provided. You can set internal parameters of the MMT and operate PSK31 and RTTY using a simple terminal program. You can also transmit and receive SSTV (56.7 kHz) through your computer (optional software needed for SSTV).

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Capture up to 102 seconds of audio, in as many as 8 memories, in the MMT's DVR. DPCM compression saves space and delivers good fidelity.

POWER MISER
The AOR MMT operates with just 4 internal AA batteries or from a regulated external supply of 9 - 15 VDC.

ACCESSORIES INCLUDED
With the AOR MMT, you get: input cable, stereo connectors, 8-pin mic connectors, power cable, stereo earphones and aerial cable for connection to a computer. Note: some soldering of wires and connectors may be required to adapt your transceiver's mic and mic input with the MMT. No alteration to your existing equipment is necessary.

Specifications subject to change without notice or obligation.

AOR's new Multi-Media Terminal (MMT) is a powerful new tool to add to your station. More than just DSP, transmit and receive PSK31 and RTTY, listen to amazingly clear audio, equalize your mic, apply potent filtering and hear "weak ones" others may miss.

We've touched on early suitcase portables briefly in the past — notably the Zenith Trans-Oceanics, which were the most popular and best-known models. Others, Philco, RCA, and even Hallicrafters, produced similar sets that often were knock-offs of the Zenith sets — down to the case styling and tube lineups! One other thing that both shared was using a 1L6 converter tube in the mixer-oscillator stage. 1L6 tubes have become relatively scarce and expensive over the past several years as more and more collectors are attracted to these handsome and good playing sets. Often improper restoration, such as not replacing the selenium rectifiers in these radios, may lead one to believe the 1L6 is both erratic and weak, and incur the unneeded expense of a premature replacement.

Recently Edward Engelken (edengelken@hotmail.com) contacted me about a solid-state conversion he was undertaking with a Hallicrafters TW-2000 he had acquired. We both figured this would be an interesting story to share with you. While not a beginner's project, it is something that the more adventurous and seasoned experimenter might enjoy tackling; or perhaps might intrigue those who limit their technical forays to just reading about such adventures! Here's Ed's TW-2000 restoration chronicle:

Converting The Classic Hallicrafters TW-2000 To Solid-State

"This story began about three years ago when I purchased a non-working Hallicrafters TW-1000 on eBay. The TW-1000 is an older version of the TW-2000 and was introduced in 1952 — see Photo 1. The TW-1000 was Hallicrafters' answer to the Zenith Trans-Oceanic Model H-500. While the Hallicrafters version is larger and heavier than the T-O, it offers the same features as its Zenith counterpart and incorporates the same tube line-up. An interesting feature of the TW-1000/TW-2000 is the use of a VHF television 'turret tuner' for the 'front-end.' These TV tuners were manufactured by the Standard Coil Products Company and were used in many TV sets produced in the early 1950s. Hallicrafters probably purchased the tuner chassis from Standard Coil and added their own components, or perhaps contracted Standard Coil to manufacture the entire tuner. In any case, the use of the turret tuner permitted Hallicrafters to produce an eight-band radio without the complicated wiring associated with an eight-position band switch.

"Restoration of the TW-1000 required complete disassembly of the tuner to replace all of the original Sprague Black Beauty paper capacitors. By the time I completed the electrical and cosmetic restoration of the TW-1000, I was completely familiar with its construction and operation. I'll touch upon the cosmetic details in greater depth later.

"The restored TW-1000 performed well and soon became my favorite shop radio and I began playing it daily while working on other restorations. The only disappointment was that although the TW-1000 was designed as a portable, battery operation wasn't practical. Another consideration was that the TW-1000, like the Trans-Oceanic, uses the very scarce 1L6 converter tube and I was putting a lot of hours on mine. I began to consider an approach to eliminate the 1L6 problem and to have true portable operation. The answer was a solid-state conversion, but I couldn't bring myself to modify my TW-1000. I had..."
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Size: 20.5” L x 9” H x 8” D.

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on-line: www.rldrake.com
Schematic drawing of the solid-state conversion for the TW-2000 receiver. The missing value for the decoupling resistor in the MPF-102 audio stage is 470 Ohms.
Parts, Supplies, And Sources

Numbers in parentheses indicate source(s).

All resistors are 1/4-watt carbon film units. (1,2,4)

All 0.1 uF and smaller capacitors are 25-volt ceramic disk, except values less than 100pF are silver mica. (1,2,4)

All 10 uF and larger capacitors are 25-volt electrolytics. (1,2,4)

All JFETs are MPF-102. (1,2,3)

All dual-gate MOSFETs are RCA 40673. (3)

The 6.2-volt regulator is a LM78L62ACZ. (1)

Audio Output IC is a LM-386N-3. (1,2)

Output Transformer, T4 is a 10-watt, 25-volt line to 8-ohm transformer. (ALL Electronics # LMT-2). (4). Alternatively, use the original transformer, but use the yellow and black wires for the primary. These wires were previously used for the tone control feedback.

All IF transformers are TOKO RMC-502503ND (Digi-Key # TK1306-ND). (1)

The ceramic filter is a TOKO HCFM2-455B (Digi-Key #TK2331-ND). (1)

Original Service Manual for Hallicrafters TW-1000/TW-2000. (5)

Sources:

(1) Digi-Key Corp., P.O. Box 677, Thief River Falls, MN 56701-0677. www.digi-key.com

(2) Jameco Electronics, 1355 Shoreway Road, Belmont, CA 94002-4100. www.jameco.com

(3) Electrotex Inc., 2300 Richmond Ave., Houston, TX 77098. www.electrotex.com

(4) ALL Electronics Corp., P.O. Box 567, Van Nuys, CA 91408-0567. www.allelectronics.com


put too much effort into restoring it and it worked so well. So, I began watching eBay for another TW-1000. What I eventually purchased, after losing out on a few other attempts, was a non-working TW-2000. The TW-2000 is a later version of the TW-1000 but most of the differences are cosmetic. The only electrical difference of importance is that the TW-2000 uses an eight-inch ferrite rod antenna for the LW and BC bands, whereas the older TW-1000 uses a traditional loop antenna. My new TW-2000 had its share of cosmetic problems, but it was complete. Most of the tubes were bad so I didn’t attempt to get it working before starting the conversion. I would just have to trust that the tuner and other major components were OK.

“This solid-state conversion was more like a home-brew project than a traditional restoration. Generally, I begin a home-brew receiver project by getting the power supply working first. Then I proceed, working from the speaker backwards, toward the antenna, checking everything as I go. That process has always worked well for me. However, in this case I decided that getting the tuner (RF stage, mixer, and local oscillator) to work on all eight bands would be a real challenge. It seemed prudent to get the tuner working first. If I couldn’t get the tuner to work, I wouldn’t need the rest of the circuit! The tuner could be tested by playing its IF output into a receiver tuned to 455 kHz.”

First Steps

“The first step in the conversion was to design a solid-state circuit that would use the existing RF coils in the tuner and generally follow the design of the original...
Adding A Ceramic Filter

"The incorporation of a ceramic filter in the circuit may seem like an unneeded modernization. But, late-model transistor radios generally use a ceramic filter for the selectivity element since the transistor-style IF transformers are primarily designed for coupling and impedance matching, not for selectivity. The TOKO IF transformers have a tuned center-tapped winding of 146 turns and a low impedance untuned winding of seven turns. Thus, we have a turns ratio of about 20 (impedance radio of 400) using the whole tuned winding and a turns ratio of about 10 (impedance radio of 100) when using the center-tap and one side of the tuned winding. I purchased a TOKO data book from Digi-Key before I ordered the transformers and ceramic filter. I selected that particular transformer because it seemed suitable for matching into and out of the ceramic filter. The purpose of the 220K-ohm resistor across one-half of the tuned winding of the second IF transformer is to provide the approximate 2,000-ohm load for the filter. The ceramic filter provides a level of selectivity that is difficult to obtain using IF transformers alone.

"The original TW-1000/TW-2000 circuit uses a 1U4 RF amp, 1L6 mixer/local oscillator, 1U4 IF amp, 1U5 detector/AVC, and 3V4 audio output. My solid-state version uses two MPF-102 JFETs connected in a cascade circuit for the RF amp. An RCA 40673 dual-gate MOSFET is used for the mixer with an MPF-102 functioning as the local oscillator (LO). Check out the Electrotex website listed in the resources. They have the RCA 40673 dual-gate MOSFETs at $2.75 each in lots of five, along with many other hard-to-find parts. They also have the NTE/ECG substitution guide on-line; just put in a part number and the NTE equivalent pops up. You can order online, and they ship very quickly. An LM78L62 6.2-volt regulator supplies the operating voltage for the LO (Local Oscillator). The RF, mixer, LO, and voltage regulator are all mounted in or on the tuner assembly along with the first IF transformer, see Photos 2, 3, and 4."

Construction Notes

"The remainder of the circuit is built on a separate circuit board and consists of a 40673 (dual-gate MOSFET) IF amplifier, an MPF-102 (J-FET) IF buffer amplifier driving two IN60A diodes in a full-wave detector/AVC circuit, an MPF-102 first audio, and an LM386-3 audio output. AVC is applied to the RF and IF stages. Operating power is supplied by eight D-cells in series to provide 12 volts. Photos 5 and 6 show the installation of the solid-state circuit components in the TW-2000 chassis. The turret-tuner has two compartments, one for the RF amp and one for the mixer. I put a small circuit board in each compartment. The first RF transistor and associated parts are in the RF compartment and the second RF transistor and the entire mixer circuit is in the mixer compartment. The mixer compartment is the one nearest the pulley on the tuning capacitor. The first IF can is mounted on top of the tuner where the 1L6 used to be. Its terminals are right next to the mixer transistor. The LO and voltage regulator are on a board that is mounted on the outside of the tuner.

"The clearance between the tuner body and the turret is rather close so I outboarded the LO and regulator since I was running
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out of space inside. That worked out well as I can get a good LO signal into my counter for alignment. Everything on the schematic past the first IF can is on the big circuit board. The first thing the signal hits on the big board is the ceramic filter."

It Worked The First Time!

"Luck was with me, as the tuner worked on all bands the first time I powered it up. I did have to clean the tuning capacitor rotor contacts to eliminate an intermittent oscillation problem in the RF stage, but once that was fixed, I had a smoothly operating solid-state tuner for my TW-2000. I spent several evenings shortwave listening with the tuner by playing it into an old BC-348 aircraft receiver tuned to 455 kHz. I was impressed with its performance. Construction of the remainder of the circuit was uneventful. The fact that the solid-state conversion worked so well and so quickly is a tribute to the good design data in the ARRL handbooks. Those handbook circuits have been carefully designed and tested and they worked as advertised despite the fact that I modified many of them to fit the requirements of the original TW-2000 components."

Design Goals

"The design goal for this effort was to obtain true portable operation of a classic 1950s vintage Hallicrafters TW-2000 radio and eliminate 1L6 concerns. The results exceeded my expectations. Not only does this radio operate on batteries and without a 1L6, it actually works better then before. The sensitivity and selectivity of the "converted" TW-2000 are noticeably better then my tube-powered TW-1000. The ceramic filter is a definite plus. It makes sorting out stations on the crowded shortwave bands much easier. Still, the TW-2000 is a single-conversion radio and has all the drawbacks of that design. Image responses are quite noticeable on the higher frequency bands on both the TW-1000 and TW-2000. The increased sensitivity of the solid-state TW-2000 makes the images even more noticeable. Although the performance is not as good as a modern portable, the TW-2000 is quite suitable for broadcast-band reception or casual shortwave listening and always gets the attention of visitors to the patio or deck when it is playing. Audio from the 5 x 7 inch speaker is outstanding. "The current drain of the converted TW-2000 is in the range of 20 to 24 mA, depending on the volume level. Modern alkaline D-cells have a capacity of 12,000 to 15,000 mA-hours. This translates into a battery life of at least 500 hours. Given the anticipated battery life, I made no provisions for AC operation. An original battery pack in a tube-operated TW-2000 would be doing well to last 50 hours.

"I put all the original components removed from my TW-2000 in a bag along with a copy of the manual. If some restorer 30 years in the future wants to restore the TW-2000 to tube operation he/she will have about everything needed — except a good 1L6!"

Cosmetics

Ed also shared some of the steps he took to clean up his Hallicrafters, saying, "Both the TW-1000 and TW-2000 required considerable cosmetic work to bring them up to a presentable condition. The TW-1000 had substantial damage to the cabinet. There were several deep gouges that penetrated the wood and the vinyl covering was worn through on the corners. The vinyl was missing in areas and only the underlying cloth was showing. The good news was that the cabinet was structurally sound. I filled in all the gouges and damaged areas with wood putty and sanded them smooth. I then applied several coats of black spray paint. Repainting the cabinet requires taking it completely apart and removing all the hardware. The ‘Hallicrafters’ logo on the lid is plastic and must be removed carefully. It is held in place by two molded plastic pins that are press-fit.
The Texas Antique Radio Club

The Texas Antique Radio Club (TARC) was formed in San Antonio, Texas, in 1996 to serve the Austin — San Antonio region. We currently have about 60 members, and are always looking for more! Meetings are held monthly in alternate locations in San Antonio and Austin. Meetings include presentations on some aspect of radio history, repair and restoration, or other radio-related subjects. A radio flea market is held before each meeting and many nice items change hands. More information on the TARC can be found on our web site at: http://www.gvtc.com/~eden-ge/TARC.htm or search Google for Texas Antique Radio Club.

Feature your Vintage Radio Club in the “Wireless Connection!” Send in about 150 words or so about your club and its activities, and we will be pleased to highlight your activities in the column! Action photos of your club’s events are also encouraged.

into the lid. It can be removed by prying it up gently using a thin-blade knife. It takes four or five coats of paint to cover everything well.

“The dial escutcheon on the TW-1000 is silver in color and appears to be plated steel. I cleaned it with Bon Ami. The vinyl-covered leather handle was shot. I replaced it with a solid vinyl handle from Antique Electronics Supply. The knob inserts are solid brass and were tarnished as the protective lacquer had been worn off long ago. The knobs are a sandwich affair with the brass insert between the front and back plastic pieces. The sandwich is held together with two plastic pins on the front piece of the knob that pass through the insert and the back piece. The ends of the pins are melted to weld the knob together. Carefully cutting away the melted plastic on the ends of the pins and disassembling the knob removed the insert. The insert was polished, re-lacquered and the pieces reassembled. A dab of hot-melt glue was used to secure the pins in place. Both the TW-1000 and TW-2000 use the same type of knobs.

“The TW-2000 arrived in better shape. The covering was loose in a few places and both front bottom corners had two-inch strips of covering flapping in the breeze. All the vinyl was off the flaps. I glued loose material back in place with Elmer’s glue. Once the covering was secure, I gave the cabinet a good cleaning with mineral spirits. I then carefully picked off all the paint splatters. Next, I began a search for something to touch-up the bare spots on the cabinet. I soon made a remarkable discovery — my wife’s collection of fingernail polish! I found that Revlon (Top Speed) Fudge nail polish was a near perfect match for the reddish-brown TW-2000 cabinet. The bottle cap has the word “Fudge” on top with the numbers 0208 and 17. I painted all the scuffed areas with the nail polish and filled in all the dings with it. I then applied half-dozen coats of KIWI Cordovan shoe polish. The transformation was remarkable.

“The dial escutcheon on the TW-2000 is solid brass. Mine had a thin coating of green crud all over it. Polishing and re-lacquering restored it to its former beauty.”

Final Observations

“Besides the TW-1000 and TW-2000, Hallicrafters made a transitional model called the TW-1000A. The TW-1000A has the same cabinet and chassis of the TW-2000 but is dressed in black and silver like the TW-1000. The TW-2000 is generally seen in brown but some blue ones were also made. Hallicrafters often manufactured radios for other companies on a contract basis. These were usually standard Hallicrafters models but carried the logo of the contracting company. I attended the AWA Spring Meet last year and saw what was clearly a TW-2000 but it was branded “Capehart.” There may be TW-2000s wearing other disguises out there!”
You've Recently Told Us . . .

Our Monthly Surveys Paint The Big Picture

by Harold Ort, N2RLL, Editor

W e're still in the ongoing process of compiling the monthly survey results - all being done by stubby pencil - that sometimes over a quick computer printout, gives us a longer time to ponder the results. Regardless, your continued support and concern, demonstrated not just by taking the time to answer our questions, but by putting that 34-cent stamp on the card is sincerely appreciated!

Back in April (please keep in mind that as this is written it's only early July and some April and May cards are still coming in) we asked what's most important to you when purchasing a communications receiver or scanner. Of the 91 cards we received, a total of 77 of you said that the radio's features were most important, or about 84 percent. And just how easy is that new receiver to operate despite all the bells and whistles? Hopefully it's user-friendly because about 48 percent of you said ease of operation was important, as was dealer reputation. Advertising, a recent product spotlight, and shipping cost were each important to about 21 percent of respondents, while the least important factors, at about 6.5 percent each were the ability of that new receiver to computer interface and the trade-in value of an older receiver.

Interestingly, along those same "computer" lines, about 57 percent of you reported not using the Internet to listen to radio stations, while only 8 percent do so frequently, and 20 percent of you said you "seldom" do. So do you use the computer and Internet to find frequencies and related scanner information? About 41 percent of you said yes, while 48 percent said no. Please keep in mind that not everyone returning a survey card responded to every question.

Reportedly, most of us take our radios when we travel; 49 percent of you said it remains at home. Twenty-five percent of our readers bring along a mobile CB, and an equal number of you said you bring along a handheld CB or FRS radio. Seventeen percent of our readers reported using a mobile ham transceiver with wideband coverage on trips.

What Else Do You Read?

A total of 60 percent of you also read electronic magazines. The next highest read category of magazine was computer publications, followed closely by news (24 percent), outdoor, aircraft, photography, automotive and gun. Only about 8 percent of our readers regularly read men's or sports magazines. Perhaps our sport is indeed radio! Music, business, gardening, entertainment and travel publications all received about 11 percent of your interest.

Most Pop'Comm readers also hold tightly onto their copy of the magazine, as about 60 percent of you reported no one else reads their copy, while slightly more than one-quarter of you share Pop'Comm with one or two friends.

Why You Listen, And Where

We must like the news, as 57 percent of you said that's why you listen to shortwave. And 45 percent of our readers reportedly listen to shortwave strictly as a DX hobby. Learning a foreign language and listening to sports on shortwave each netted only about 6 percent of your interest, while learning about a country's culture and enjoying music/entertainment each got about 32 percent of your interest.

I'm still trying to figure this one out and don't have an answer, but a whopping 36 percent of you reported that your listening shack/monitoring post is in your bedroom. Maybe it's just plain convenient if you wake up at 3 a.m. and want to hear Papua New Guinea, but are you using those headphones? Your basement, living room and den got exactly the same equal number of responses - 11 percent. Other than the attic, which only one percent of you reported using as a shack/monitoring post, the "other room" (whatever it might be!) is where 26 percent of you play with your radios. Perhaps you're fortunate enough to have a special room set aside for monitoring and other radio-related activities?

What about all the talk about antennas, limited space and restrictive covenants? Fully 43 percent of you reported that antenna performance most affects your choice of antenna, while 38 percent said that limited space affects antenna choice. Only about 19 percent of you said that your landlord or restrictive covenant was a concern, cost was a factor for 22 percent of you, while only two percent of you reported that family concerns affect your choice of antenna. Hey, this is my hobby - I've only got a dozen antennas, and they're all on one side of the house!

I'd like to personally take a moment again to thank you for your support of your magazine, and for returning the survey cards each month. We think we're hitting the target with Pop'Comm, and your answers certainly go a long way toward developing a long-term plan for your magazine's future. We read all your emails and letters - and no idea is ever considered "dumb" or not worthy of discussion, so if you've got an idea, please let us know! Next month we'll have a lot more of your responses to our surveys.

Survey Winners!

Just after that last slice of pizza and before we turned off the lights last night we picked two of your cards at random. The lucky winners will each receive a free one-year Pop'Comm subscription (or subscription extension). This month's winners are Brenda Fernau, KBOLQY of Jennings, Missouri, and Christian Bryant, of Lafayette, Georgia. Congratulations, and thanks for taking time to do our survey!
Follow The Money

Have you ever heard the old saying, "Following the money"? If you haven't you might want to jot it down, tack it on the wall, and look at it whenever you pick up a newspaper or sit down to watch the evening news. The essential wisdom it conveys is that much of what you see, hear or read has probably been "spun" or "slanted" by someone to present the most saleable face of his or her particular project or agenda. What you are being told may be true, but only sort of. If you want to know what is really going on you have to "follow the money". If you can figure out whose pockets are going to be lined (or fleeced) you will probably be closer to understanding what really is going on and why.

The "follow the money" axiom has been used in a USENET discussion, in the rec.radio.cb newsgroup (which often features the "demonization of CB"), to defend, or at least explain, Pop'Comm's tolerance of my frequent coverage of the "Freeband" and other such non-conventional 11-meter activities. "When you have magazines like 'Popular Communications', our antagonist states, "that featured an article about a CB Radio 'Keydown', CBers running huge mobile amplifiers, without a single word of condemnation (it) would seem to signal it's OK to thumb your nose at the FCC and Part 95."

"The reason that 11-meter (including Freeband) activity is receiving more coverage in the aforementioned periodicals," our protagonist replies, "is because the 11-meter operators of the mid-80's (Freebanders VERY much included) have since settled down, grown up, are earning a decent living, and are, quite frankly, PAYING THE BILLS! That's right, it's there because the subscribing 'constituency' has demanded its inclusion. Much in the same way that they 'demand' that 'export' and easily modifiable rigs be available. Money 'pays the bills' and bull**t walks."

Hence, the on going argument would appear to be that I write about such things, at the direction of the magazine's owners and managers, because that is where they - and eventually I - get "The Money".

Thanks for defending me. All in all, that is a pretty solid argument. I hope that, at least as far as the magazine goes, it is true. For my part, however, it does miss the mark. I don't do it for the money. For me, it is not so much a case of "following the money" but "showing me the action". Just trying for truth. I would be very surprised (and flattered), to learn that what I write here is of the stuff that would attract sufficient subscribers and advertisers to make much a difference to the publishers bottom line. The truth is, other than the general area they want me to cover, the publishers of Pop'Comm, have never told me, directly or indirectly, what to or not to write about. In fact, the only time I ever hear from them is when they send me the all too infrequent check. I do occasionally hear from my immediate supervisor, editor Harold Ort. He usually calls when, like today, I have missed my deadline and then only to encourage me to "get the damned thing in!" I write about what I write about here for one reason and one reason only. I write about the people that I hear from or hear on the radio. I write about the things they are doing. Are you or some other citizen you know active on radio? I don't care if it is CB, FRS, GMRS, MURS, Free or otherwise band. Any place that everyday people use or enjoy two-way radio is all right by me. If I am not writing about you and what you are doing, it is only because I either can't hear you, have not heard from you or no one has told me about you. So - TELL ME!

Where I'm Coming From

It could be that our antagonist was objecting more to how I write about what I write about than what I actually write about. In that case let me make a confession. Yes, I do have opinions and a point of view that "slant" how I write. Show me a writer that doesn't. So that you will know "where I am coming from" let me tell you a little about "where I am" and how I got here. I have been enjoying radio for over 30 years. During that time I have gone from "Good Buddy" to professional broadcaster and back again. For the most part, I just listen. That is right, I am a Sandhagger! Yep, I have dabbled in the Freeband - enough to boast of a dozen or so contacts - but never the "Super Bowl". I have most enjoyed Sideband. It was there, during its heyday, that I really learned how to do radio and do it well. It was on SSB that I met operators who were the cream of the CB crop. Knowing those operators has made my experience as an Amateur somewhat disappointing. My main claim to fame, however, is that of a channel 9 Assistance monitor. Monitoring daily for years, averaging 10 to 12 hours a day, personally handling many thousands of calls, I came as close to being a pro-
As surely as the amounts of good publicity for CB and Amateur services, not to mention copious highway information and communication services, not to mention copious amounts of good publicity for CB and Amateur radio alike.

I say all of this to help assure you that I have a fairly diverse back ground and a modest insight as to what has happened in the past. Let me also assure you, that like you, I am having a devil of a time trying to figure out what is going on in the present. The answer to which neither of us will really know until we can get a good look at it in the rear view mirror. As for the future, we had better adjust to the fact that it won't be like the past. It will be different. We - you and I - by our actions - or lack thereof - will influence just how different it will be. As surely as I have become convinced that the future will not and cannot be like the past, I have also become convinced that the powers that be have little desire and even less incentive (following the money) to go there. But, go there we must. We simply do not have a choice. So should your read this column in the future and find that I do not have a choice. So should your read this comment and wrote, "Sure would like to see me in opposition to the 'establishment', perhaps even a little radical, I won't expect you to necessarily agree with me, but at least now you know my slant and where I am coming from.

Help Wanted

Speaking of channel 9 and being radical, Jason Meader of Palm Beach, Florida is trying to organize a channel 9 monitoring group. If you are in or near Palm Beach County and would like to give Jason a hand drop him a note at celtic_magick333@hotmail.com.

I hope he can get it together without going the REACT route because, as I indicated in last month's column, I fear he just might find them less than helpful. I know I sure did.

John P. Hengel, Vice President of St. Cloud React in Central Minnesota caught my comment and wrote, "Sure would like to hear your reasons for the comment about REACT being an obstacle."

Well John, thanks for asking. I could write a book. Unfortunately, I am quickly running out of space here. Let me hit...
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How helpful?

some of the key concepts and if you are not satisfied, we can chase it further in a future column.

As you can see from what I have written above I am no stranger to channel 9. What I failed to mention is that I am no stranger to REACT either. I have been a REACT member on three separate occasions. Once I even started a team of my own. I've also been on the state council and everything. The above-mentioned network actually started as a REACT publicity project during my first encounter. Unfortunately REACT had no stomach for it. They wouldn't even lend a hand. Sure, they came up with all kinds of reasons, you know, by-laws, FCC regulations, but the long and the short of it was they did not want to get that heavily involved. That was OK. I could understand that, but they didn't want me to pursue it either. So, I struck out on my own.

As the years passed and our local network grew one might think that REACT would see the light and join the fun. Wrong. The more calls we generated, the bigger and more efficient the network grew the more determined REACT became to bring about its demise. They even went as far as prompting an FCC investigation of my Amateur operations, although at the time none of them were Amateurs! It then became very apparent that REACT didn't know what they were talking about.

While the original concept had been sound, REACT has long ago lost its way and missed phenomenal opportunities to grow, prosper and provide much needed services. Structurally they have become extremely bureaucratic. Not only has the wrong crowd been running the show, including nationally, but they had (and probably still have) a stranglehold on the group. Technically, REACT missed the real story of channel 9 by concentrating on the "emergency" aspect missing
entirely the opportunity to be of "assistance". They ruled a "quiet" channel instead of a vigorously active one. Instead of promoting the idea that you had to be REACT to use channel 9 they should have been trying to make it more inviting and open to all, callers and monitors alike. Instead of becoming extremely proficient at throwing people off of 9 for not having several enough reasons to use it they should have been encouraging everyone to find a reason to call everyday. I could go on.

Tell me John, when is the last time you took a call on 9? Can I see your logs, both state and national? In their heart of hearts, took a call on 9? Can I see your logs, both state and national? In their heart of hearts.

October and November Mixers

For those of us who find the act of 'randomly contacting' on the air (or with two tin cans and a string) very exciting and alluring, why not make plans to attend the next, regularly scheduled on-air CB Mixer. They are held, wherever you are, from 9 p.m. until 10 p.m. local time, on the last Saturday of the month. The next two will be on the 27th of October and November 24th. SSB operators work channel 36 LSB. AM operators work channel 23.

Well, that is it for now. Thanks for writing me here at the magazine or via the Internet where my address ed@barnat.com. And as always, if you can, especially October 27th and November 24th) catch me on the radio!
What GOES Up, Images Must Come Down

At press time, the National Oceanic and Atmospheric Administration (NOAA) is planning the launch of a new Geostationary Operational Environmental Satellite (GOES), or GOES-M, a weather satellite. GEOS-M should help forecasters better detect solar storms that could adversely impact technological systems on Earth thanks to an instrument called Solar X-ray Imager that will be on board.

The instrument will take a full-disk image of the sun’s atmosphere once every minute. The images will be used by NOAA and the U.S. Air Force to monitor and forecast the sources of space weather disturbances from the sun, enabling forecasters to predict disturbances to Earth’s space environment that can fry satellite electronics, disrupt long-distance radio communications, or surge power grids.

The United States operates two meteorological satellites in geostationary orbit 22,300 miles over the equator. The GOES-8 operates over the east coast and Atlantic Ocean and the GOES-10 operates over the west coast, the Pacific Ocean, and Hawaii. GOES-M will be stored on orbit, ready for operation when needed as a replacement for GOES-8 or 10. It joins GOES-11, also in storage. NOAA assigns a letter to a satellite before it is launched, and a number once it has achieved successful orbit. GOES-M will become GOES-12 once achieving orbit.

Real Time Images On The Web, And Receiving GOES Data

The images taken by the Solar X-ray Imager will be available in real time to the general public via the World Wide Web, through NOAA’s National Geophysical Data Center web site at http://www.ngdc.noaa.gov/stp/stp.html.

Weather data, which can be received live (and free), can be split into several groups. For right now we’ll talk about satellite rebroadcast via high frequency (HF), or shortwave radio. But, keep in mind that the U.S. GOES satellites aren’t the only ones up there providing weather images and data. Europe has their METEOSAT system, Japan has their GMS system, and China has their Feng Yun system. Russia launched their first Geostationary Operational Meteorological Satellite (GOMS) in October 1994. With an expected design life of “not less than three years,” the satellite went out of service in September 1998 when it drifted out of its operational orbit. These geosynchronous satellites orbit approximately 36,000 kilometers above Earth’s surface and appear to be stationary over a specific point.

Every half hour the globe is scanned and the data is split into smaller blocks and sent down according to a dissemination schedule. Because the satellite is stationary it is possible to create an animation of images as they are received and see the movement of weather systems across the globe. In addition, geostationary satellites can see each other, so they can transmit data from one to another.

Receiving Weather Images Via HF

Many have successfully received images and weather charts rebroadcast by Naval facilities around the world. Reception is relatively easy requiring just a general coverage shortwave receiver such as the battery-operated portable Sony ICF-2010 that I have. Antenna consists of mainly a long length of wire or a dipole cut for the specific frequency.

The headphone output of the receiver goes to a demodulator sold by AEA, Software System Consulting and others, or to a Packet Radio TNC designed to demodulate HF-FAX, such as the PK232 or MFJ 1278. Results aren’t great, but the system cost is low and it’s a good way to start monitoring and receiving daily weather satellite images. And keep in mind, the images you receive on HF shortwave are rebroadcast by stations on Earth. They are not broadcast directly from the satellite.

One of the best sources for current WEFAKX transmission stations and frequencies, visit HF-FAX at http://www.hffax.de/HF_Fax/hf-fax.html.

International Boundary and Water Commission Upgrades GOES Satellite Station

The United States Section of the International Boundary and Water Commission (USIBC) plans to replace and enhance their telemetry systems located in both the Rio Grande basin (U.S./Mexico border region) and the western boundary streams including the lower Colorado River, Tijuana River, and Whitewater Draw. The telemetry upgrade portion of the USIBC
Hydrographic Data Collection Rehabilitation Project will proceed in two phases.

The upgrade will require base stations (hardware/software) at various locations set up for line-of-sight radio communications and GOES/Satellite Direct Readout Ground Stations. Satellite dishes are required with GOES system at two locations. Base station software will be commercial off-the-shelf and provide the capability of both programmed time interval interrogation of sites and on demand queries for data; tipping bucket rain gauges; data loggers; shaft encoder; Yagi Antenna for GOES satellite communications; cables; and training.

Army Special Operations Acquiring SATCOM Equipment

The Army Special Operations Command, Fort Bragg, North Carolina, will be acquiring high and low angle satellite communications (SATCOM) antennas in the near future, according to sources. The equipment will support: 225-400 MHz (High Angle) 240-400 MHz (Low Angle), Polarization: Right Hand Circular (High Angle) Vertical Linear (Low Angle), VSWR: 1:5:1 Max (High Angle) 3:1 Max (Low Angle), Power Handling: 200 Watts (High Angle) 100 Watts (Low Angle), Axial Ratio: 3dBi at Half Power Points, Impedance: 50 Ohms Nominal, Isolation: 25dB Average, Gain: +8 dBiC Typical (High Angle) +3 dBIL (Low Angle), Weight: No more than 3.0.

NASA KC-135 Student Flight Program

NASA's Johnson Space Center, Houston, TX, is planning to issue additional cooperative agreements for their KC-135 Student Flight Program. The program is designed to encourage students to pursue careers in science and engineering, by presenting them with the opportunity to fly an experiment on NASA's KC-135 aircraft (call sign NASA931), better known as the "vomit-comet," which provides reduced-gravity conditions.

The program was scheduled to start Sep. 1 and runs through Aug. 31, 2002 with an option for continuation of the program for up to three years. Student proposals are received and evaluated in the fall, and student experiments fly aboard the aircraft both in the spring and the summer. Teams of up to four students, along with their faculty mentors and journalists, travel to the Johnson Space Center's Ellington Field for one week of preparation and one week of flying activities. Student experiments fly twice during this period, while faculty mentors provide ground support.

The E-Mail Bag

Dear Mr. Stein,

My name is Scott Bowen and first I would like to say that I enjoy your column. I work for Lockheed Martin on the Shuttle Training Aircraft here in Houston, TX. I am writing to correct some information about NASA's Shuttle Training Aircraft (STA) [July 2001 issue, page 60]. NASA owns four STA's, NASA944, NASA945, NASA946, and NASA947. All have been flying for several years with the last aircraft to be modified [NASA945] being completed in 1989.

NASA 948 is a normal Gulfstream II in the inventory here at Johnson Space Center and is used as a business jet. Most of the STA training flights are flown from El Paso, TX, and the practice landing ses...
sessions take place over White Sands Space Harbor approximately 30 miles west of Alamogordo, NM, on the U.S. Army White Sands Missile Range. The STA also trains at Edwards Air Force Base in California and at Kennedy Space Center [KSC] in Florida. The major repairs for the STA are performed at Ellington Field/Johnson Space Center in Houston, TX.

Besides being used for astronaut training, the STA's are used for pre-launch weather flights at KSC and pre-landing weather flights and for choosing the runway to be used by the space shuttle.

NASA is currently planning to purchase two Gulfstream G-II aircraft to replace the aging Gulfstream G-I aircraft it has in its inventory.

Thank you for taking the time to put the information in your article about the STA as most people do not know how the astronauts are trained to land the shuttle. They only get one shot at landing the real thing, there is no "wave off," or "go around," with the orbiter — one shot to land it, and one shot only. A shuttle pilot will have at least 500 practice dives in the STA's before piloting the orbiter.

Thanks again for writing about the aircraft. Keep up the great work with your column, I enjoy reading it.

Scott Bowen
Houston, TX

What would you like "Space Monitor" to do for you? What articles and information would be of particular interest to you? Let us know. We look forward to hearing from you.

Keith Stein is the editor of SpaceCluster.Com (http://www.spacecluster.com). You can contact him via E-mail at kstein@spacecluster.com.

Monitoring Reports

All times in UTC. All voice transmissions in English unless otherwise noted.

9043: Orbital Sciences Corp. Lockheed L-1011 aircraft heard performing simulation of Pegasus rocket launch in USB mode (Al Stern, Satellite Beach Fla.).

119.300: NASA 806 (ER-2 based at Edwards AFB, Calif.) heard departing Salina Airport in Kansas, then switched to 134.900 until he reached 23,000 feet.

125.650: NASA 8 (Beechcraft King Air 200 based at Wallops Flight Facility, Va) heard, AM mode (Ron-Maryland).

128.625: NASA TEST 1 (900) discussing recent crash of NASA's Lear 24 based at Dryden Flight Research Center, Calif. Also discussed S-3 icing test (Mike-Ohio).

132.550: NASA 427 (C-130Q based at Wallops Flight Facility, Va) heard (Ron-Maryland)

133.500: AGAR 50 heard (NKC-135B from 452 Flight Test Squadron based at Edwards AFB) landed at March Field then left two hours later for Hawaii (D.Stijovich-West of March Field).

136.500: Nimbus 4 heard. It no longer transmits a useful weather signal but its carrier can be heard in CW mode (John David Corby-Canada)

137.920: Megsat-0 heard transmitting a sound that I liken to a "violin being tortured" which lasts a few seconds. It is repeated every few seconds (Corby-Canada).

143.075: Tubsat-A heard, a German satellite transmitting a very strong signal lasting about five to seven seconds repeated every few minutes (Corby-Canada).

149.200: NASA Glenn Research Center uplinking voice on Applications Technology Satellite-3 (ATS-3), channel 2, talking to "Paul in Fl." (Mike-Ohio).

259.700: Space Shuttle Atlantis STS-104 crew heard performing their terminal countdown demonstration test (Mike Comer, Titusville Fla.).

316.500: SPACE 01 (military C-21 Lear Jet 35) aircraft based at Peterson Air Force Base, Colo.) heard with CFB Comox Ops (Colin M—Victoria BC). (This aircraft is used by the North American Aerospace Defense Command, United States Space Command, Air Force Space Command; and Department of Defense Manager for Manned Space Flight Support Operations, at Peterson AFB—Keith.)

344.600: SPACE 01 requesting weather for Andrews Air Force Base, Md., at 1800 (Brian).

348.700: NASA 806 (ER-2, Edwards AFB) heard, then switched to 328.025 (D.Stijovich-west of March Field).
Congratulations To Carlos Queiroz, PY4-EZ Of Brazil!

Popular Communications invites you to submit, in about 150 words, how you got started in the communications hobby. Entries should be typewritten, or otherwise easily readable. If possible, your photo (no Polaroids, please) should be included.

---

I am most interested in the following hobby radio activities (check one or more):
- Broadcast Band Listening/DXing
- Shortwave Broadcast Listening/DXing
- Scanning VHF/UHF
- Antique Radio Restoration
- Citizens Band
- FRS-Family Radio Service
- Amateur Radio (Active Ham)

Your age range:  
- 20-30
- 30-50
- >50

Your occupation:  
- Student
- Professional
- Engineering
- Military
- Technical
- Retired
- Other

Please circle the correct month of this issue.
- Jan
- Feb
- Mar
- Apr
- May
- Jun
- Jul
- Aug
- Sep
- Oct
- Nov
- Dec

I started SWLing in 1965 with an old BC-348-Q surplus receiver, and in 1966 I had already accumulated over 500 verifications, and received a Popular Electronics Shortwave Monitor Certificate, WPE2QGO. In 1976, I got my ham ticket, PYF-EZ. In enjoy collecting, restoring, and using “antique” radios and test instruments. They are reliable and fun (and nostalgic) to operate. The enclosed photo shows some of my favorite SWL gear such as a BC-348-Q, Eddystone 750, MFJ 8100 regen receiver, and Heathkit GR-78. The Yaesu FT-840 I use for SSB contacts. For antennas I use a square loop and a three-element beam. I’m an avid Pop’Comm reader and enjoy the hobby very much.”

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www.popular-communications.com
The Loop Antenna Revisited — With A Twist

As you can tell from my August column, I have a real affection for the loop antenna. I have been using some form of the loop antenna since 1986, and I probably always have some form of the loop antenna close at hand. Like most other pieces of equipment, the loop has its good points, but it also has some undesirable properties. The worst characteristic is the antenna that I described before requires four supports for proper construction. This can be a real problem if you are short on supports. Luckily there is a variation of this antenna that can eliminate the need for four supports. The antenna is called the triangle or Delta (after the Greek letter Delta.). I have done a slight modification of the basic Delta antenna and extended its frequency range and usefulness. Does this sound interesting? Read on.

Loop Background

Many people have helped in the development of the Delta loop antenna. It was designed by Harry Habig, K8ANV, Lew McCoy, W1ICP, wrote the original article for QST, and it was named by Doug DeMaw, W1FB. Many variations of this antenna have appeared through the years both as multi-element and single element models. Basically the original design was a one wavelength closed loop in the configuration of a triangle. What else could be done with this concept? Well, time to put on the "thinking cap."

An antenna with this geometry is fine for the low bands, but what happens on its second harmonic? Unfortunately, it loses efficiency. Perhaps there is a way to correct this problem. There is an antenna that uses two wavelengths of wire and it is in the form of a loop. It is known as the "Bi-square" design. It has four equal sides and is normally fed at the bottom through a balanced feed system. Opposite the feed point, the loop is left open to establish the proper current distribution. It can be erected in a square or a diamond configuration. It is horizontally polarized, and many have found it to be a very effective gain antenna. Why not use the Delta Loop in this configuration? (See Fig. 1.)

Development

I used the antenna analysis program EZNEC written by my friend Roy Lewallen, W7EL, for the study of the antenna system. I found that if I used the highest band of interest, 18 MHz as the design frequency, that I had good results on the 12-MHz and 6-MHz bands as well. The formula for the perimeter of the antenna is 2010/frequency in MHz. If the antenna is constructed in the form of an equilateral triangle, the formula is 670/frequency in MHz. Now for the preliminary computer study.

I first designed a two-wavelength 18 MHz in the delta configuration, fed at the bottom and open at the center of the top wire. The analysis program showed this approach to be equivalent to the Bi-square antenna that I referenced earlier. Next, I
checked the pattern on 12 MHz and 6 MHz. The patterns were very disappointing. The antenna efficiency was much less than acceptable. It was time to look at an alternate approach.

I then wrote another program with the wire at the top of the antenna continuous, and checked the predicted efficiency. The antenna showed promise on the two lower bands, but the performance on 18 MHz was lacking. I needed a way to open the top of the loop on the highest band and close the loop on the low bands. What about a quarter wavelength stub of transmission line? A shorted quarter-wave stub would look like an open circuit on 18 MHz and like an inductor at lower frequencies. This seemed like a reasonable approach.

The subsequent computer analysis showed me what I wanted to see. The predicted free space gain on 18 MHz was about 3.35 dB, which is roughly equivalent to the gain of a Bi-square, and the performance was also acceptable on the lower two bands.

**Pattern Predictions**

The predicted pattern for the antenna on 18 MHz (see Fig. 2) is perpendicular to the plane of the antenna. It has a calculated gain of 3.35 dB and it will give a good account of itself. The pattern on 12 MHz (see Fig. 3) is parallel to the plane of the antenna. The predicted gain is slightly greater than that of a dipole. The pattern for the 6-MHz (see Fig. 4) band is again perpendicular to the plane of the loop, and the pattern is the classic figure eight that we have grown to associate with the dipole. The gain is roughly equivalent to that of a dipole. The antenna should be a real performer on this band as well. Now let us discuss the construction phase.

**Construction**

Start construction (see Fig. 1) by cutting two pieces of wire 57 feet in length. This is sufficient for the antenna plus a bit for splicing waste. Measure 19 feet from one end of each piece of wire, fold the wire back on itself, and push the wire through the eye of an insulator. Loop the wire around the insulator and form a cinch knot. This will hold the wire securely when it is placed in the air and properly tensioned. Tie the short end of each wire to each end of a third insulator (the top insulator in Fig. 1.) Attach the long end of the wires to a fourth insulator (the feed point in Fig. 1.) Solder a balanced feed line to the wires at this insulator. The quarter-wave stub was made from 11 feet, 3 inches of 300-ohm twin lead. This measurement takes into account the 0.82-ohm velocity factor for the twin lead. At one end of the stub, solder the wires together forming a short circuit. At the other end of the stub, connect one wire to each wire at the top insulator. Solder these connections.

Check the wiring of the loop with an ohmmeter. If everything is wired correctly, you should read the resistance of the wire in the antenna plus the resistance of the feed line. Make a last visual inspection prior to placing the loop into the air.

The antenna should be placed as high as possible to maximize performance. I am blessed with many tall southern pines, and I was able to get the top wire of the antenna up about 55 feet. My antenna was in the form of an equilateral triangle, but if you cannot get the antenna high enough in the air to clear pedestrian traffic, moving the corner insulators toward the feed line insulator can increase the length of the top wire. Be sure to maintain symmetry. Route the feed line through an antenna coupler, and you are ready for many happy hours of listening.

**Afterthought**

The antenna has many good features. It will fit in a space that is too small for a 6-MHz half-wave dipole, and it will give the same results. It is easy to build and perhaps best of all — it's inexpensive. Try it. It may be just the antenna you have been looking for in your shack.
New York Passes Cell Phone Law

“Driving a car is a serious responsibility that requires the attention, the full attention, of the driver.” With that pronouncement, Gov. George Pataki of New York signed a bill into law banning the use of handheld cellular telephones while driving. Hands-free cellular phones are acceptable for use while driving, but handheld phones can only be used in emergencies. The law takes effect November 1, 2001, and violators will be warned for the first 30 days. As of December 1, 2001, fines of up to $100 will be assessed. Two dozen other states and the federal government are considering similar legislation.

NTIA Seeks Comment On Radio Spectrum Use

The National Telecommunications and Information Administration (NTIA) recently announced that it is seeking public comments on radio spectrum use by energy, water, and railroad services. NTIA is looking at current and future requirements for spectrum by the nation’s public utilities and railroads in order to determine how current and emerging technologies will affect these agencies. The Congress-directed study is designed to focus on critical infrastructure, such as power and water companies, that use wireless telecommunications.

Jersey City PD Asks For UHF Frequencies

The Jersey City, New Jersey, Police Department has filed an application and request for waiver of 18 UHF channels that they say they need for public safety operations. The Department’s current six channel 450-470 MHz communications system is 25 years old and averages three million transmissions annually, which the city says puts a strain on the aging system. Jersey City has proposed a new trunked radio system and has asked the FCC for a waiver in order to use 12 unassigned UHF paging control frequencies: 470.0250/473.1500 MHz, 470.0500/473.1750 MHz, 470.1250/473.1250 MHz, 470.2500/473.2500 MHz, 470.2750/472.2750 MHz, 476.0250/479.0250 MHz, 476.0750/479.0750 MHz, 476.2500/479.2500 MHz, and 476.2750/479.2750 MHz. The Commission is currently looking at comments before making a decision.

Carry A Big Stick

Two amateur technician-class license holders have had their tickets modified by the FCC. Ted R. Sorensen III, KC6PQW, of Agoura Hills, California, and Joseph Mattern, KG4NGG, of Orlando, Florida, both encountered the big stick of Riley Hollingsworth, Special Counsel for Amateur Radio Enforcement, who ordered them to avoid all repeaters on the 144, 222, and 440 MHz bands for the next three years. Sorensen and another amateur, Gregory S. Cook, were already under investigation for allegedly making late-night one-way transmissions on the W6NUT repeater. Cook surrendered his license earlier this year. Mattern had been under investigation for allegedly using amateur repeaters to solicit traffic reports, which he then sold to a traffic reporting company. Mattern called the traffic-reporting job “a hobby” from which he made very little money. The FCC called it a violation of the rules and banned him from using repeaters. Both license modifications were made under Section 97.27 of the FCC’s Amateur Service rules.

Who Says They’re Not Fair?

The FCC has granted in part and denied in part a Petition for Reconsideration from Jerry Smith. Back in 2000, the FCC’s Philadelphia, Pennsylvania, Field Office paid Smith a little visit in order to check for possible violations. Smith, a CB radio operator, was allegedly operating his equipment with a non type-accepted transmitter, a transmitter output power greater than four watts, and an external RF power amplifier. The FCC issued a Notice of Violation and later received a letter from Smith’s wife saying that the problems had been corrected. Here’s where it gets interesting. Later that year, the Commission received a notice from its Gettysburg office saying that it had heard from Senator William V. Roth “concerning interference to home electronics caused by Mr. Smith’s operation of the CB station.” Now the big guys were involved. A Field Office agent monitored Smith’s CB station and later went to inspect the equipment. The violations were still present. There’s nothing like a little disobedience to get the government mad. The FCC fired off a Notice of Apparent Liability of Forfeiture for $13,500. Smith shot back a Petition for Reconsideration, alleging, among other things, a “desperate" financial situation and asking for remission of the forfeiture. Under the Commission’s rules regarding forfeiture, the FCC must take into account “the nature, circumstances, extent and gravity of the violation, and with respect to the violator, the degree of culpability, any history of prior offenses, ability to pay, and other such matters as justice may require.” It basically means they rule on a case-by-case basis. In this case, the Commission couldn’t justify full cancellation of the forfeiture amount, but they did agree to reduce the fine to $3,000.
Tap into secret Shortwave Signals

Turn mysterious signals into exciting text messages with the MFJ MultiReader™!

Plug this self-contained MFJ MultiReader™ into your shortwave receiver’s earphone jack. Then watch mysterious chirps, whistles and buzzing sounds of RTTY, ASCII, CW and AMTOR (FFC) turn into exciting text messages as they scroll across an easy-to-read LCD display.

You’ll read interesting commercial, military, diplomatic, weather, aeronautical, maritime and amateur traffic...

Eavesdrop on the World

Eavesdrop on the world’s press agencies transmitting unedited late-breaking news. English — China News in Taiwan, Tanjug Press in Serbia, Iraqi News in Iraq — all on RTTY.

Copy RTTY weather stations from Antarctica, Mali, Congo and many others. Listen to military RTTY passing traffic from Panama, Cyprus, Peru, Capetown, London and others. Listen to ham, diplomatic, commercial, aeronautical, maritime, and amateur traffic...

Super Active Antenna

"World Radio TV Handbook" says MFJ-1024 is a "first-rate easy-to-operate active antenna...quiet...excellent dynamic range...good gain...low noise...broad frequency coverage...".

Plug this self-contained MFJ MultiReader™ into your receiver and you’ll hear strong, clear signals from all over the world. 300 KHz-200 MHz including low, medium, shortwave and VHF bands.

Tuned circuitry minimizes intermod, improves selectivity, reduces noise outside tuned band. Use as a preselector with external antenna. Covers 0.3 MHz. PL-1. Band, Gain, On/Off/Bypass Controls. Detachable telescoping whip. 5x2x6 in. Requires 286 or better computer.

CMOS, 6x3x5 inches. Remote has high quality whip, 50 feet coax. 3x2x4 inches. 12 VDC or 110 VAC with MFJ-1312, $14.95.

MFJ-1024B $1499

MFJ-1025C $999

Two separately tunable filters let you peak desired signals and notch interference at the same time. You can peak, notch, low or high pass signals to eliminate heterodynes and interference. Plugs between radio and antenna or 10 kHz to 10 MHz. Preselector and bypass receiver grounded positions. Tiny 2x3x4 inches.

High-Gain Preselector

High-gain, high-Q receiver preselector covers 1.8-54 MHz. Boost weak signals 10 times with low noise dual gate MOSFET. Reject out-of-band signals and images with high-Q tuned circuits. Push buttons select 2 antennas. Detachable coax and phone connectors. Use 9-18 VDC or 110 VAC with MFJ-1312, $14.95.

MFJ-1045C $999

How to build and put up inexpensive, fully tested wire antennas using readily available parts that’ll bring signals in you've never heard before. Antennas from 100 KHz to 1000 MHz.

MFJ-1705 $179.95

All over the world —

Australia, Russia, Japan, etc.

Printed Monitors

24 Hours a Day

MFJ's exclusive TelePrinterPort™ lets you monitor any station 24 hours a day by printing transmissions on an Epson compatible printer.

Print cable: MFJ-5412, $9.95.

MFJ MessageSaver™

You can save several pages of text in an 8K of memory for re-reading or later review.

High Performance Modem

MFJ's high performance PhaseLockLoop™ modem consistently gives you solid copy — even with weak signals buried in noise. New threshold control minimizes noise interference — greatly improves copy on CW and other modes.

Easy to use, tune and read

It’s easy to use — just push a button to select modes and features from a menu.

It’s easy to tune — a precision tuning indicator makes tuning your receiver easy for best copy.

It’s easy to read — the 2 line 16 character LCD display with contrast adjustment is mounted on a brushed aluminum front panel for easy reading.

Copies most standard shifts and speeds. Has MFJ AutoTra® Morse code tracking speed.

Use 12 VDC or use 110 VAC with MFJ-1312B AC adapter, $14.95. 5'/Wx2'/lx5'/d inches.

No Matter What™ One Year Warranty

You get MFJ's famous one year No Matter What™ limited warranty. That means we will repair or replace your MFJ MultiReader™ at our option...no matter what for one full year.

Try it for 30 Days

If you’re not completely satisfied, simply return it within 30 days for a prompt and courteous refund (less shipping). Customer must retain dated proof-of-purchase direct from MFJ.

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Try it for 30 Days

If you’re not completely satisfied, simply return it within 30 days for a prompt and courteous refund (less shipping). Customer must retain dated proof-of-purchase direct from MFJ.
This listing is designed to help you hear more shortwave broadcasting stations. The list includes a variety of stations, including international broadcasters beaming programs to North America, others to other 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.

<table>
<thead>
<tr>
<th>UTC</th>
<th>Freq.</th>
<th>Station/Country</th>
<th>Notes</th>
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<tbody>
<tr>
<td>0000</td>
<td>3280</td>
<td>La Voz del Napo, Ecuador</td>
<td>SS</td>
<td>0300</td>
<td>9765</td>
<td>Voice of Russia, via Vatican</td>
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<td>6165</td>
<td>Zambia Broadcasting Corp.</td>
<td>SS</td>
<td>0300</td>
<td>11800</td>
<td>RDP Int'l, Portugal</td>
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<td>0300</td>
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<td>SS</td>
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<td>15095</td>
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<td>RR</td>
<td>0300</td>
<td>4890</td>
<td>NBC, Papua New Guinea</td>
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<td>12040</td>
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<td>0300</td>
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<td>RR</td>
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<td>3385</td>
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<td>CC</td>
<td>0330</td>
<td>3365</td>
<td>Radio Milne Bay, Papua New Guinea</td>
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<td>0330</td>
<td>15455</td>
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<td>CC</td>
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<td>13800</td>
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www.popular-communications.com  October 2001 / POP'COMM / 41
Scancat-Gold's New Version 8.0
For Windows

Computer Aided Technologies of Shreveport, Louisiana has been working very hard to improve their Scancat software and to support the many features their customers have asked them to support. Scancat-Gold For Windows Version 8.0 is their answer to your requests.

Scancat-Gold for Windows has all the power you'll ever need and it's just a few mouse clicks away. Scancat can program the unique Uniden TrunkTracker scanners with either conventional or trunking channels (including EDACS, Motorola and LTR systems). Scancat gives you trunking control and bank-by-bank memory management of your radio. Scancat also controls all the conventional operations of the BC-245, 895 and 780, such as unlimited sized databases, range scanning logging, spectrum analysis and much more.

Here's a look at just some of the features in Version 8.0:

*Scancat supports over 65 radios in one program.
*Clean uncluttered design - it's simple, but very powerful
*New "basic" scanning interface gives you the simplicity of computer control without screen overload.
*A separate trunking module exclusive to the BC-780, PRO-2052/BC-245/895 TrunkTrackers.
*New "tabbed" interface (GUI) specifically designed for simplicity yet still provides the power you demand.
*Scanning support for both conventional and trunking, all in one easy-to-use program. (No other Trunk Tracking software can claim that!)
*Share databases with any other supported radio, limited only by the radio's frequency coverage.
*Sound recording by transmission for both conventional and trunking scanning. (Requires Scancat-Gold SE)
*Share Talk Group databases with the BC-780, PRO-2052, BC-245 or BC-895. Not need to type it all in again!
*Auto logging (with duplicate check) of all talkgroups as they become active.
*Automatically place "standard descriptions" of trunking talkgroups into the database.
*Tag your favorite groups and auto-program them to any bank.
*Scan talkgroups and change banks while trunking with the click of a mouse.
*Store accumulated hits for both conventional and Trunking operations.
*Program Alpha (text) tags for conventional and trunking frequencies (if supported by radio).
*Import and export using Comma Delimited "CSV" files.

There's much more, so be sure to download the demo from http://www.scancat.com/download.html for a test drive!

Computer Aided Technology's latest Scancat Gold For Windows is $99.95 ("SE" is $159.95). You can upgrade Scancat Gold For Windows for $29.95 or the "SE" for $59.95 (plus shipping - and quoted upgrade prices are for less than 12 months from previous purchase).

For more information contact Computer Aided Technologies, P.O. Box 18285, Shreveport, LA 71138 at (order line) 888-722-6228, or phone 318-687-4444 or FAX 318-686-0449. As always, please tell the folks at Computer Aided Technologies you saw their Scancat Gold For Windows Version 8.0 announcement in Popular Communications magazine.

Kenwood Is First Major Audio Company To Introduce Entertainment Hub; New Entre™ Stores And Streams Music

Kenwood USA Corporation has become the first major consumer electronics manufacturer to introduce an entertainment hub — a single component that stores and streams compressed and uncompressed music files, Internet radio, and serves as a main controller for other Kenwood Sovereign components in a home entertainment system. Jointly developed with OpenGlobe, Inc. the new Kenwood Sovereign Entre allows users to create play lists via on-screen menus, connect and control other Kenwood Sovereign components, and store and play MP3 or WMA music files on its 20-gigabyte hard disk drive. A built-in CD recorder allows creation of compressed and uncompressed audio CDs for use in the car or with a portable player. Entre, which streams multiple audio programs simultaneously to different rooms in a house, will reach stores this summer.

"Entre complements Kenwood Sovereign systems by providing access to new media such as compressed MP3 music files and Internet radio," said Bob Law, Kenwood vice president of sales and marketing. "This component gives independent specialty retailers the opportunity to increase sales because of the added value and functionality it brings to other Kenwood Sovereign components."

Part of the new Kenwood Sovereign line of premium audio/video components, Entre makes it easy to access both internal and external audio, and to control other Kenwood Sovereign components. The unit's RS-232 ports allow Entre to connect to other Kenwood Sovereign components, including four new A/V receivers and two new 400-disc DVD mega changers. It neatly integrates all the component's functions with an easy-to-use on-screen menu displayed on the video monitor. For example, DVDs and CDs stored in a compatible Kenwood Sovereign changer can be accessed with cover art, title, track, artist, and genre information via online databases such as CDDB, Music Recognition Service and OpenGlobe, MovieDB, and may be displayed on a television monitor. Connect Entre to a Kenwood Sovereign A/V receiver and it seamlessly integrates listening of standard AM/FM radio with Internet radio. Select receiver functions can be controlled with on-screen video menus.

Although Entre supports playback of both MP3 and WMA music files, it will only store compressed audio files in the MP3 format. Play lists of all stored MP3 music files can be created, and music libraries compiled by making selections from on-screen menus. Entre allows consumers to take music anywhere. It incorporates a built-in CD recorder and users will be able to "burn" both standard, uncompressed CD audio tracks as well as compressed MP3 files onto CD-R and CD-RW discs. Uncompressed CD-R and CD-RW discs will play on virtually every 2001 Kenwood in-dash car audio CD players, while any
MP3-encoded CD-Rs or CD-RWs will play on the new Kenwood Excelon Z828 and Kenwood KDC-MP8017 in-dash car audio CD/MP3 players.

Consumers can also use Kenwood’s new DPC-MP922 handheld MP3/WMA/CD player. The DPC-MP922 plays standard CD as well as CD-R and CD-RWs encoded with MP3 or WMA files.

In addition, Entre provides a USB connection on the front panel, enabling easy connection and download of compressed audio to MP3 players with a USB port (however, music cannot be uploaded to Entre through this port).

Entre is capable of storing hundreds of hours of compressed music on its internal hard disk, and simultaneously streaming different audio programs (such as MP3 files and Internet radio) to different rooms using the Home PNA 2.0 protocol. Home PNA 2.0 uses a home’s existing phone wiring to create a network for streaming audio at 10Mbps without laying new wires. Kenwood’s Axcess, a remote portal available later this year, will make it possible to play streaming audio in any room with a phone jack. Entre can stream multiple audio files through four access portals at once and not interfere with standard phone, FAX or DSL modem services. Additionally, later this year Kenwood will be introducing an application that will allow transfer of both MP3 and WMA files from a computer desktop to the Entre as well as setup of the Entre’s meta-data Home PNA.

The services provided by OpenGlobe, an Indianapolis entertainment technology company, complement Entre by simplifying access to on-line entertainment media, bringing new insights to users about their entertainment interests, and providing them with purchasing opportunities without having to leave their chairs. Kenwood has worked with OpenGlobe to develop a user interface that’s simple to use, yet allows complete management of the Entre’s functions and delivery of the full benefits of the following services:

- Access to Internet radio stations
- Access to Internet databases such as CDDB Music Recognition Service and OpenGlobe’s MovieDB
- Downloading graphics and related content pertaining to CDs, DVDs, and artists.

Additional functions provided by OpenGlobe include ongoing CE-Commerce services that enable consumers to purchase items such as DVDs or CDs online, surf the ‘net, and send and receive E-mail. The Internet connection also allows Kenwood and OpenGlobe to automatically upgrade the Entertainment Hub software so that the user always has the latest version.

Entre will be available in September from authorized Kenwood Sovereign dealers for an MSRP of $1,800. Further information can be obtained by contacting Kenwood USA Corporation, P.O. Box 22745, Long Beach, CA 90801, by calling 1-800-Kenwood, or by visiting http://www.kenwood usa.com. OpenGlobe, Inc., an Escent Technologies affiliate, is a leading convergence technology company providing Internet-empowered home entertainment platforms and services to consumers through established brand-name consumer electronics and personal computer manufacturers targeting the mass market. OpenGlobe tightly integrates the Internet, innovative digital media management, entertainment content, CE-Commerce™ buying services and hardware technologies into products that end users already understand, enriching their entertainment experience. Headquartered in Indianapolis, the company sets the benchmark for products and services that entertain the concept of simplicity.

www.popular-communications.com

Order direct or contact your favorite dealer.

October 2001 / POP’COMM / 43
It's been some time since we've taken space to look at some of the great frequency information that you've been sending in. I thought we'd take a break from the regular rambling and do that this month. Please continue to send in your "Frequency of The Month" entries so you'll be entered in the drawing for a free subscription to your favorite magazine — assuming that's *Popular Communications*, of course. Your questions are always welcome too!

First, let's get to a quick question with some interesting pictures. Joe Rosenberger writes: "I've been reading the magazine for years and always enjoy it. I recently moved to Fremont, CA, from Covington, KY, and was out walking the dog on one of the mountain roads near here (Morrison Canyon Road) and way on top of the Mission Peak mountain discovered a very weird place. Fenced off, remote, a huge tract with dozens of antennas of every type — conical, longwire, one mounted on a huge mast approx. 40 feet by 40 feet at base that revolves and is a near-full size twin engine airplane fashioned out of wire mesh, and mounted inverted. There is another antenna nearby also made of mesh and shaped like an airplane wing. A 'guard' sitting in an old house trailer (and speaking little English) informed me that 'technicians' visit during the day (I was there at 6 p.m.) but he did not know any more than that. Now CA is a strange place, but this is really strange. If you know what this is, let me know."

Well, Joe, I don't know for sure, so let's see if any readers might know what it is and help us out. Take a look at the pictures in this column and let us know! Please send your idea (wild guesses entertained too, if you tell us that it's a wild guess) and we'll see what we come up with.

Don Hallenbeck writes: "I just caught up with a couple of your columns as a friend let me bum some of his back issues of *Pop'Comm*. The photo of the different scanners: Both were familiar to me as I owned the crystal one and had the extra crystals in an old 35mm film can and carried a pair of needle-nose pliers with me to change crystals with. The other one is familiar as that was the type my folks had on the kitchen table, only it was a Wards Airline multiband radio that was kept tuned to our local police freq. I've had my scanner on that freq. for three days and nothing. That happens sometimes. That's a frequency you might want to put in your notes as one to check now and again to see if anything pops up. Or it may be that in your area it's just not needed right now."

Regular contributor Phil Karras sent in quite a log. He says, "It took two days, but I got a callsign!" After a couple days of listening, he finally heard "This is base control WDBI599." (I couldn't find anything on this license, so it must be relatively new). Don Hallenbeck wrote, "That is supposed to be Irving Tanning Co. of Hartland, Maine, along with Pride Mfg. of Guilford, Maine, and Maine Turnpike Authority out of Falmouth. Seeing as how my antenna is limited, I copy none of the stations. I only hear the turnpike people when I'm in the Augusta, Maine, area."

**Frequency Of The Month Loggings**

The response to our “Frequency of The Month” contest continues to be quite strong, in fact so strong that keeping up with all the data has become a bigger job than I had planned. I'm not complaining mind you, but rather making excuses for why you haven’t seen more of your loggings in the column. Keep 'em coming! In the meantime, here's what we found on a few recently featured frequencies.

**462.550**

Enrique from AOL sent in a Mexican station, probably near Reynosa, Mexico. Often use Cinco-dos = 5 - 2 which is a half-hearted 10 - 4 maybe? Anyone know what this station might be and the code in use?

Bob Davis from Southern Illinois writes, “Nothing here in Southern Illinois, but a few in Central and Northern Illinois.” and Ed Campbell writes, “Freq. of 462.250 is inactive in the Essex Jct., Burlington, VT. area. I've had my scanner on that freq. for three days and nothing. That happens sometimes. That's a frequency you might want to put in your notes as one to check now and again to see if anything pops up. Or it may be that in your area it's just not needed right now.”

**155.730**

Dave Martin writes, “I live in Fort Worth, Texas, and this frequency is the City of Forest Hill police. It's a secondary channel.” Jonah Riner says, “155.730 is an active frequency for the Hazelhurst, GA, police department which is about 25 miles south of my location in Vidalia, GA. Their signal comes in very..."
Alan Hill from Santa Fe, NM, wrote in with an interesting story too. He says, “I have tried to listen for your ‘Frequency of the Month’ but normally do not hear anything. Of course, I am burdened with a 40 hour a week job that keeps me away from monitoring. This time I know what is in New Mexico for the March 2001 frequency of 155.730. The New Mexico State Police use it as the mobile to base frequency for districts 6, 7, and 8. It is a half-duplex system paired with 155.790.”

Well, Alan, that’s kind of the point of the Frequency of the Month, or the FotM as it’s now known. You’ve found several frequencies that are not in use in your area. Don’t hesitate to send in that you’ve listened and heard nothing! It will let me know that you’re involved, and get you into the drawing! In NM, although I have never been there, my guess is that there are indeed many parts of the spectrum that are unused, or under-used just because there aren’t as many people as many of the more populated and therefore RF dense areas. Scanning is still scanning, right?

Ralph says, “Have heard only infrequent traffic here in the Houston, TX, area — two distant agencies, both repeater outputs. The strongest is probably the Galveston County Constable; the other is probably the Waller PD.”

Robert notes, “In my area, 155.730 is home to the local Fostoria Police Dept., and also the nearby Putman County Sheriff’s office can also be heard on the same freq.”

I would assume they’re using some type of tone squelch on those frequencies to keep the neighboring departments from interfering with each other. That might be an interesting thing to check out if you have access to a radio with tone squelch, or a decoder that will read the tone for you.

David Carreon says, “In response to the frequency of the month 155.730. That one is an easy one. (Sometimes I pick good ones, sometimes not.) “It is the Hidalgo County Sheriff Department, (channel one) in the State of Texas. I have more frequency for the Rio Grande Valley area which include Starr, Hidalgo, Cameron, and Willacy counties.”

Barry Lands visits his mother-in-law, in McGregor, TX, and finds 155.730 useful then. Nice to have something to do at your mother-in-law’s house, I suppose. Barry explains, “This is the primary police channel for McGregor and several neighboring small towns including Crawford, Texas. Crawford has been a lot busier since George W. Bush began running for President. Now that he won, the little town sees a lot of out of town license plates keeping the local police busy. The Bush ranch is very secure so sightseers are encouraged to stay on their side of the fence when taking photos. The marquee sign on the gas station always tells when the President is in town.”

I’ll have to confess that checking the gas station marquee wasn’t on my list of hints and tips for federal monitoring, but we’ll all keep that in mind, thanks to Barry’s tip!

On the great state of Nevada, where Juan checks in with this report: “The frequency mentioned in the article, 155.730, turns out to be the input to the 159.210 MHz repeater for the Las Vegas Metropolitan Police Department’s channel 5 north-east division.” Thanks Juan. Perhaps you could share the rest of the channel plan with us next time?

Phil Karras wrote in on this one too, with the observation, in the midst of his logs, “Some type of police freq., trunked?”

Well, it’s technically possible that it could be trunked, but I would think it highly unlikely. I haven’t seen much VHF trunking activity at all mainly because it’s difficult to get enough frequencies together in a VHF system to set one up (although agencies that already had the frequency allocations could do it, I
and weekend dispatching for city utilities (on work (unknown frequency), as well as after hours.

A little closer to home, John C from my neighboring state of Illinois writes, “I can tell you all about 155.73 MHz. It’s our local police department main frequency. In Northeast Illinois, in the northern suburbs of Chicago, a community of six towns are grouped and served by the East Shore Radio Network. The towns are Highland Park, Deerfield, Bannockburn, Highwood, Lake Forest, and Lake Bluff. Using an odd arrangement, there are two separate repeaters both using 155.73 MHz output (one serves the north part, the other serves the south) and about 12 receive sites spread throughout the area, which are linked via phone lines. Each of the repeaters uses one of two different input frequencies, 156.15 MHz or 154.77 MHz. A couple of the receive sites even have two receivers, one for each repeater. Five of the six towns also have simplex systems at their PD on 155.73 MHz, although a couple of the towns normally operate duplex. Some of the squad cars operate simplex, while others use duplex. It’s an example of an older VHF system which has grown with the area, and continues to do its job quite well.”

Sounds like John has some inside information on that system. Lots of details there, which is great to know! Speaking of input frequencies, I have a friend here in St. Louis who regularly scans those just so he’ll know when something is happening close to him. Not a bad idea, perhaps! John finishes his letter by saying “Great magazine you guys have there!” Thanks, John. I guess we’ll have to give Harold some credit on that one. Gee, I hate it when he’s right.

And south to Arkansas for John Gibson’s contribution. He writes, “In my area (Central Arkansas) this frequency is used by Faulkner County Sheriff’s Department.”

Still further south to Georgia, Christian Bryant says, “In my area this frequency is used as the dispatch frequency for Fort Oglethorpe Georgia Police Department. The majority of the city is in Catoosa County, but part of it is in Walker County. Even though both counties have 911, Fort Oglethorpe is still dispatched from in house using a seven-digit phone number. If you call 911 from inside the city it is sent to Catoosa 911 who then forwards it to the dispatcher at Fort Oglethorpe using the ’911 link line.’ Fort Oglethorpe PD has one dispatcher/clerical worker on duty per shift except on Thursdays which is the only day you can pick up a copy of a report. Then they have an extra dispatcher to handle dispensing the reports. This is usually the second shift dispatcher who works a split shift on Thursdays noon–8 p.m. The ‘relief shift’ dispatcher comes in to cover the second shift 3–11. Prior to beginning EMT class (which I just finished in December) I worked at Fort Oglethorpe Police as the ‘relief’ dispatcher for a brief period. In addition to dispatching for the police, the dispatcher also dispatches for the Lookout Mountain Drug Task Force Agent assigned to Fort Oglethorpe, the National Park Service Rangers at the Chickamaunga Chattanooga Military Park (on 168.325), the city schools emergency paging network (unknown frequency), as well as after hours and weekend dispatching for city utilities (on 453.350). Fire dispatching is done by Catoosa 911 on 154.430.

EMS coverage provided by Hutcheson EMS and Angel EMS are dispatch by Catoosa 911 on 155.265. Angel EMS units may also be dispatched by the company dispatcher on their talkgroup (?) on Chattanooga Communications Trunked System.”

That dispatcher sounds pretty busy! Thanks for the info, Christian.

Finally, with one more trip to Texas, Michael Ross writes “In McLennan County, TX, this freq. is used by the county Sheriff Dept. to communicate with the police officers in the outlying towns, and the constables in the rural areas.”

That’s exactly how it’s used here in the St. Louis area too, Michael. It’s called “Sheriff’s Net” and is used mostly by outlying departments that don’t have a lot of traffic to interfere with each other. Within St. Louis County, it’s recently been used as a car-to-car channel by some departments.

Wow, that’s a lot of good information! Keep it coming. Even if you don’t hear anything, or if yours doesn’t make it into the column, you’re still entered into the drawing, so what have you got to lose? And, as always, keep those questions coming too!

Many articles are based on a question or six that I receive even though I may not directly quote the writer.

**Frequency Of The Month**

Lei’s go back to the aviation band this month, just for a change of pace. Have a listen on 121.9 (AM) and see what you hear. With all the aviation and airline industry news of late, there should be something there for most of you! Send your entry and questions to Ken Reiss, 9051 Watson Rd. #309, St. Louis, MO 63126, or via the technology route at armadillo1@aol.com. Until next month, Good listening!
Another Anti-Ethiopian Clandestine YOU Can Hear!

Lately, Ethiopia has ranked at or near the top of the list of countries being targeted by various anti-this 'n that groups. The newest addition to this rather long list is something with the odd-sounding name Netsanet Le Ethiopia Radio, which is broadcasting on Wednesdays and Sundays from 1700-1800 on 12110. Not surprisingly, the broadcasts are in the local Amharic language. Here's what they're trying to achieve with the broadcasts, taken from their website at www.netsanet.com:

The objectives for which the organization is formed are to:

- Promote the cause of peace, democracy, and unity by emphasizing the deep-rooted historical, cultural, and economic ties among Ethiopians.
- Inform Ethiopians the current political, economic, cultural events and developments of interest to Ethiopians.
- To raise the awareness of Ethiopians values, processes, and institutional mechanisms which democracy, human rights key concepts in Ethiopian society.
- Inform the international community of the violation of human rights, expression of civil and political liberties and obstacles to the democratic aspiration of Ethiopians.
- Provide forums for discussions regarding the need for free election and democratic constitutions in Ethiopia.
- Contribute for the development of free press.

The organization can be reached at Netsanet Le-Ethiopia, P.O. Box 5398, Takoma Park, MD 20913.

The anti-Cambodian Voice of Khmer Krom Radio is operating on 15725 from 1400 to 1500 (actual closing is at 1459) with programming in Khmer with bits and pieces of English tossed in. This is on the air only on Fridays. We suspect this is probably a relay via the Julich site in Germany. The broadcasts represent the views of the Khmer-Kampuchea Krom Federation.

Another new station is the Voice of Mesopotamia (how often do you hear that word outside of high school history class?). This is a Kurdish operation and is on the air from 0300 to 1000 on 15230 and 1400-1600 on 15770, via sites in the former Soviet Union.

Still another new Kurdish clandestine is Radio Must using 15770 and 17490 from 1400-1600 for broadcasts in Kurdish. Note that these are the same frequencies as Mesopotamia, above, and thus also likely to be via sites in the former Soviet Union.

Falun Dafa Radio has reinvented itself as Da Guang Ming Dian Tai and is being heard from 2200 to 0200 on 12075 (via Russia) runs only to 2300 and 15440, which runs the full four hours. The Communist authorities in Beijing do what they can to jam these transmissions.

Radio Nacional de la RASD (Arab Democratic Republic of Sahara) runs to 0000 sign-off on 7460. The fall/winter season will be the more opportune time to go after this one. Programs are in Arabic.

Radio Barabari (Equality) is a new anti-Iranian station using 7480 from 1700 sign on in Farsi and seemingly running only to 1730. Supposedly this is on Tuesdays and Fridays only. The station says it wants to break through official censorship on behalf of the workers, the unemployed, women, and foreigners living in Iran, ethnic minorities, teens and members of religious groups. In a word, just about everyone in the country with the exception of those in power. So says their website at www.barabari.org.

Another new one aimed at Iran is Radio Payam-e Doost, which translates into Radio Message From a Friend, on 7480 from 1800-1830. Both this and Barabari are quite likely to come from the same site.

Radio Iran of Tomorrow comes out of Dushanbe, Tajikistan, in the former Soviet Union and is on the air at the unhappy hour of 1800-1830 on 5830. We'll need deep winter before considering hearing this one. Broadcasts are in Farsi.

Radio Kavkas is now broadcasting to Chechnya using 7350 from 1300 to 1800 with the intention of airing unbiased information.

Radio Voice of Hope, programmed by the New Sudan Council of Churches, is beamed to the Sudan via the Radio Netherlands site in Madagascar. It is on the air only on Saturdays, running from 0430 to 0525. The station answers reports with a letter confirmation. Write to the New Sudan Council of Churches, P.O. Box 6618, Nairobi, Kenya.

Anti-Iraq station Radio Bopeshawa is currently using 9960 Monday, Wednesday, Thursday, and Friday from 1500 to 1600 UTC. The station can be reached at AKPI, Postfach 16 0244, D-10338 Berlin, Germany.

That about covers things for this time! Remember, your contributions are as important as they are welcome. That includes loggings, schedules, address and QSL news, copies of QSLs received from clandestine stations and info on supporting groups and station transmitter locations. Whatever you can send is always appreciated! Until next month, good hunting!
Almost Anything Goes At Nevada's First Radio Station On The Internet: Pahrumpradio.com!

Opening with "This is Talk Radio of Pahrump. We like to call it K-PAH. Coming to you from the Nevada desert, we strive to bring you an alternative to 'cookie-cutter' mainstream radio. We will webcast almost any kind of subject if we feel that the host of such a program is knowledgeable about the subject. Sometimes we miss; sometimes we don't care what the host knows! But, no matter what, it'll be different. Maybe even interesting..." Nevada's first radio station on The Internet, is indeed, an enjoyable and interesting listening experience. Since Pahrump is practically at the back door of "Area 51," you're likely to hear UFO information, such as reports, interviews, etc. plus news, issues, and opinions of local interest. But, that's not all!

Rounding out K-PAH's "un-mainstream" programming, as "Harvey," K-PAH's radio engineer describes it, are two live call-in shows you really should experience: "Nonsense of the Hams" (Wednesdays, 7 p.m. Pacific) with Ron (KC7YMH) and Geraldine (KD7CCX) and "The Can't Sleep Show" (Mondays, 9 p.m. Pacific), co-hosted by "Hye" and Swerdlowe. E-mail this dynamic duo your questions, at kpah@pahrumpradio.com, in advance of the show and ask anything — advice to the lovelorn, questions on science, animal husbandry, vegetables, or even the meaning of life. They'll have some sort of answer — maybe even having to do with the question! If you catch them live, the call-in phone number is 775-751-2579. K-PAH's new studio (construction progress shown in the photo) should be completed where they plan to simulcast their webcasts to local residents at 100 milliwatts on 1700 kHz AM under F.C.C. Part 15 rules. Their current LIVE webcasting schedule is Monday through Friday, starting at 8 p.m. Pacific time. "Re-runs" of previous shows are available at all other times. Don't miss this one-of-a-kind radio station. Get ready for some FUN and point your browser to http://www.pahrumpradio.com.

Tiger Radio Online

"In 1965, a group of ham radio operators brought to life a 250-watt radio station at 1520kc in a small fishing village in South Carolina. Tiger Radio, WTGR, became the hallmark radio station of that town, breaking new music acts, helping to usher in beach music and booming the music of the day to vacationers who relaxed along the beaches of the blue Atlantic. Many great radio personalities throughout the United States got their start behind the Tiger Radio microphone, a microphione the station owner still has today, tucked in amongst the memorabilia of a bygone era. It was an era when radio stations played a major part in the life of the community they served, when vinyl records were played and disc jockeys talked loud — and live! Now, you are able to relive a piece of history, as TigerRadioOnline.com brings back the memories of youthful summers on the beach, holding hands, dancing, listening to the radio, and dreaming of the future. The Mighty Tiger Radio has come to life again — still from the sunny shores of Myrtle Beach, but this time with a roar that can be heard worldwide!" I couldn't have said it better myself! Don't miss this extraordinary site. Many thanks to Web Williams, KR4WM, Myrtle Beach, SC, for the heads up on TigerRadioOnline. Visit http://www.tigerradioonline.com/.

WGN Radio 720 Online

"On June 1, 1924, the Chicago Tribune's radio endeavor took form as we know it now when WDAP's studios and programs were taken over and supervising engineer Elliott Jenkins made the announcement. This is WGN, formerly WDAP...." Seventy-seven years later, WGN is still going strong and was
renowned personalities, you'll have access to The WGN Radio 720! In addition to live broadcasting, featuring a host of recently named “Station of the Year” during the Illinois Broadcasters Association’s (IBA) Silver Dome Award ceremony. If you like news, talk, and sports, you’ll love WGN Radio 720! In addition to live broadcasting, featuring a host of renowned personalities, you’ll have access to The WGN Radio Online Archives in case you missed the live action. Fire up your web browser and “tune in” to one of America’s oldest and most prestigious AM radio stations at http://www.wgnradio.com/.

CNET Online

CNET.com is probably one of the most familiar online resources around when it comes to covering the hottest new products, movers and shakers of the Internet age, and the latest technologies for delivering information. What some may not know is that it also has a sophisticated and comprehensive streaming media presence. CNET News.com provides profiles of growing companies and upcoming IPOs, trends driving tech stocks, and opinions from leading analysts in the technology field. CNET TV.com offers perspective, insight, and context on the latest Internet trends, the newest forms of e-commerce, and the companies and people spurring the growth of the Web today. CNET Radio is the first all-tech radio format in the U.S., airing in the San Francisco Bay Area on KNEW 910 AM with streams from the CNET.com website. If you’re even mildly interested in the technology of today, you’ll find CNET’s massive “streaming” resources both interesting and enjoyable. Stay ahead of the technology curve — visit http://www.cnet.com/ cnettv/0-3614.html.

StreamRipper For Winamp®

Sure, you can use any number of methods to record streaming music files. But then you have the problem of editing huge audio files into individual tracks. To the rescue comes “StreamRipper for WinAMP®” — a FREE WinAMP “plug-in” that will create individual MP3 tracks for you (in many cases) — automatically. I say “many cases” because not all streaming audio files are created equal.

In order to work, the individual tracks being streamed must contain a “null” byte that signals the end of one track and the beginning of the next. That’s what StreamRipper uses as the “trigger” and many streams do not include that marker. Regardless, many do, and StreamRipper is an extremely small program that works well and installs easily. Visit the StreamRipper site for full details and to download their most current version. It’s well worth taking a look at as it works seamlessly with WinAMP and could save you hours of editing time.

For more information, visit http://streamripper.sourceforge.net/.

WGN Radio 720 — Chicago’s premiere news and talk station.

StreamRipper for WinAMP®! Here’s a nifty plug-in for WinAMP that will create individual MP3 files during streaming audio playback.

recently named “Station of the Year” during the Illinois Broadcasters Association’s (IBA) Silver Dome Award ceremony. If you like news, talk, and sports, you’ll love WGN Radio 720! In addition to live broadcasting, featuring a host of renowned personalities, you’ll have access to The WGN Radio Online Archives in case you missed the live action. Fire up your web browser and “tune in” to one of America’s oldest and most prestigious AM radio stations at http://www.wgnradio.com/.

CNET Online

CNET.com is probably one of the most familiar online resources around when it comes to covering the hottest new products, movers and shakers of the Internet age, and the latest technologies for delivering information. What some may not know is that it also has a sophisticated and comprehensive streaming media presence. CNET News.com provides profiles of growing companies and upcoming IPOs, trends driving tech stocks, and opinions from leading analysts in the technology field. CNET TV.com offers perspective, insight, and context on the latest Internet trends, the newest forms of e-commerce, and the companies and people spurring the growth of the Web today. CNET Radio is the first all-tech radio format in the U.S., airing in the San Francisco Bay Area on KNEW 910 AM with streams from the CNET.com website. If you’re even mildly interested in the technology of today, you’ll find CNET’s massive “streaming” resources both interesting and enjoyable. Stay ahead of the technology curve — visit http://www.cnet.com/ cnettv/0-3614.html.

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Well, that’s it for this month. If you have a favorite streaming media resource, or are looking for one, be sure to let me know about it. Chances are that other Pop’Comm readers will be interested too. Until we meet again, happy listening and viewing.

NEED MEDIA PLAYERS?

REALPLAYER 8 BASIC
http://www.real.com

WINDOWS MEDIA PLAYER
http://www.microsoft.com/downoads/

APPLE’S QUICK TIME PLAYER

WINAMP
http://www.winamp.com/

Get your player(s) or upgrades/updates at these URL’s.
The Importance Of IF Filters For DXing

What makes a radio a good DX communications receiver? One of the most important features to look for in a receiver is selectable IF (intermediate frequency) bandwidth. In simplest terms, IF bandwidth defines a frequency range centered on the desired frequency of reception and down converted to the intermediate frequency before being demodulated into audio. With a bandwidth of 10 kHz, an AM receiver will reproduce everything received from 5 kHz below to 5 kHz above the desired frequency. Let’s say you want to hear TransWorld Radio, Monaco/France broadcasting on 1467 kHz, one of the strongest and most widely heard transatlantic signals. With a number of domestic signals on 1470 kHz it would be nearly impossible to hear 1467 using a 10 kHz bandwidth. A narrow bandwidth is often necessary to separate the desired signal from interference on adjacent frequencies. A bandwidth of 2.3 kHz would significantly reduce interference from 1470, with reception theoretically limited to a frequency range +/-1.15 kHz from the desired 1467 signal. Unfortunately most portable AM receivers operate with only one bandwidth anywhere from 4 to 10 kHz, which is fine for listening to the strongest signals but unsatisfactory for down-in-the-dirt DXing. However there is a trade-off in audio quality as bandwidth is reduced. At narrow bandwidths the audio will lose high-frequency content and sound muffled. Some of the high-frequency response can be recovered by tuning slightly off-frequency to enhance reception of one sideband. Of course the best option is to have a choice of available bandwidths for hard-core DXing and armchair copy of your favorite radio stations.

Bandwidth of an IF filter is measured at the two points 6 dB down from the center IF frequency. A ratio known as the shape factor is used to more easily understand filter performance. It numerically describes the shape of the signal from -6 to -60 dB. To determine shape factor, simply divide the bandwidth at -6 dB by the bandwidth at -60 dB. For example, specifications for the Drake R8B communications receiver with the 2.3 kHz bandwidth engaged indicate selectivity of 2.3 kHz at -6 dB and 4.5 kHz at -60 dB, resulting in a 1.96 shape factor. A shape factor of about 2 is typical for a good filter. A value of 1.0 represents a perfect "brick-wall" filter. A shape factor higher than 2 means filter performance will be compromised; the greater bandwidth below -6 dB will allow more interference and noise from adjacent frequencies to pass through despite the narrow bandwidth specified at the -6 dB points.

There are three basic types of IF filters used in AM communications receivers, DSP, ceramic, and mechanical. The DSP filtering in high-end receivers like the Ten Tec RX-340 comes the closest to achieving a shape factor of 1 over a wide range of bandwidths (Ten Tec specifications indicate 1.5 or better). Ceramic filters are most commonly used in consumer electronics because of their small size and low cost. Kiwa Electronics (www.kiwa.com) offers filter upgrade packages for popular receivers including AOR, ICOM, Japan Radio, Sangean, Sony, and Yaesu models. Collins mechanical filters are considered among the purest in terms of insertion loss, distortion, and stability. High-end receivers like the AOR 7030 allow for optional installation of Collins mechanical filters.

IF filters for FM receivers have a much greater bandwidth. The space between standard FM channels in North America is 200 kHz or 0.2 MHz. So for DX purposes, 110 to 150 kHz fil-

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### Haitian Radio Shows in Boston

<table>
<thead>
<tr>
<th>Day</th>
<th>Frequency</th>
<th>Time</th>
<th>Show</th>
<th>Type of Show</th>
</tr>
</thead>
<tbody>
<tr>
<td>Everyday</td>
<td>1640 AM</td>
<td>24 hrs</td>
<td>Radio Nouveau</td>
<td>Comm. affairs show</td>
</tr>
<tr>
<td>Everyday</td>
<td>1620 AM</td>
<td>24 hrs</td>
<td>Radio Energy</td>
<td>Comm. affairs show</td>
</tr>
<tr>
<td>Everyday</td>
<td>93.1 FM</td>
<td>24 hrs</td>
<td>SCAR</td>
<td>Comm. affairs show</td>
</tr>
<tr>
<td>Everyday</td>
<td>102.1 FM</td>
<td>6pm - 1am w/e 24hrs</td>
<td>Radio Concorde</td>
<td>Comm. affairs show</td>
</tr>
<tr>
<td>Everyday</td>
<td>1550 AM</td>
<td>5:00pm to 8:00pm</td>
<td>Haiti Diaspo Inter</td>
<td>Comm. affairs show</td>
</tr>
<tr>
<td>Everyday</td>
<td>1550 AM</td>
<td>12:00pm to 3:00am</td>
<td>Vwa Lakay</td>
<td>Comm. affairs show</td>
</tr>
<tr>
<td>Weekly</td>
<td>1550 AM</td>
<td>M-F</td>
<td>Galerie Haitienne</td>
<td>Delva Toussaint</td>
</tr>
<tr>
<td>Thursday</td>
<td>88.1 FM</td>
<td>6:00am to 8:00am</td>
<td>Kaleidoscope</td>
<td>wnbr</td>
</tr>
<tr>
<td>Friday</td>
<td>1600 AM</td>
<td>11:00pm to 2:00am</td>
<td>Haiti-Diaspo-Inter</td>
<td>David Cange</td>
</tr>
<tr>
<td>Saturday</td>
<td>1550 AM</td>
<td>7:30am to 10:30am</td>
<td>Radio Compass</td>
<td>Promotion</td>
</tr>
<tr>
<td>Saturday</td>
<td>890 AM</td>
<td>10:00pm to Midnight</td>
<td>Haiti-Diaspo-Inter</td>
<td>David Cange</td>
</tr>
<tr>
<td>Saturday</td>
<td>740 AM</td>
<td>7:00am - 5:00pm</td>
<td>Canal Tropical</td>
<td>Max Nicolas</td>
</tr>
<tr>
<td>Sunday</td>
<td>88.1 FM</td>
<td>6:00am to 8:00am</td>
<td>Compas Sur FM</td>
<td>Compas music</td>
</tr>
<tr>
<td>Sunday</td>
<td>1330 AM</td>
<td>7:00am to 8:00am</td>
<td>Haiti-Diaspo-Inter</td>
<td>David Cange</td>
</tr>
<tr>
<td>Sunday</td>
<td>88.1 FM</td>
<td>8:00am to 10:00am</td>
<td>Haiti Focus</td>
<td>Comm. affairs show</td>
</tr>
<tr>
<td>Sunday</td>
<td>1330 AM</td>
<td>2:00pm to 4:00pm</td>
<td>Haiti-Diaspo-Inter</td>
<td>David Cange</td>
</tr>
<tr>
<td>Sunday</td>
<td>1330 AM</td>
<td>4:00pm to 6:00pm</td>
<td>Samuel Osias</td>
<td>Talk Show</td>
</tr>
<tr>
<td>Sunday</td>
<td>1330 AM</td>
<td>6:00pm to 8:00pm</td>
<td>Radio Nouveau</td>
<td>Comm. affairs show</td>
</tr>
</tbody>
</table>

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List of Haitian broadcasts on licensed and unlicensed radio stations in the Boston, Massachusetts area.
Graph of the Sony ICF-2010 stock narrow filter bandwidth and the Kiwa upgrade. Note the tightened bandwidth at 60dB, resulting in an improved shape factor.

Kiwa Electronics has introduced a filter upgrade kit for the Crane Company's CCRadio that includes a mini-filter switchboard for selectable wide/narrow bandwidths of 6.2 and 3.7 kHz. According to Kiwa, "The mini-filter switch board includes a low-noise preamp that provides additional signal gain compared to an unmodified receiver. The additional signal gain improves low-level sensitivity. The preamp is extremely quiet and does not introduce any measurable noise. The 3.7 kHz bandwidth provides the additional selectivity for weak and difficult signal conditions. The 6.2 kHz bandwidth is provided by the stock filter. The mini-filter switchboard is mounted on the left inside area of the chassis. Drilling of the plastic chassis is required. We supply a template to provide accurate hole alignment. A push button switch will select the 6.2 and 3.7 kHz bandwidths. Full instructions are included."

Kiwa provides outstanding step-by-step instructions for installation of their filter modifications. If you are unsure of your soldering capabilities or don't want to risk irreparable damage, then Kiwa will perform the installation for a reasonable fee. Visit www.kiwa.com for more information. Remember that any unqualified modification of a receiver will void the manufacturer's warranty, so proceed with caution.

Lost Listeners, And Lost 45's

Now that things appear to have settled down after a number of frequency swaps and format changes in central Florida, here's what the radio scene looks like for now at least. WPAW Vero Beach-99.7 is now WGNX Generation X Radio playing '80s pop music. WBKM Vero Beach - Sebastian 95.9 is on the air as “Blast 96” with oldies music. WCZR Vero Beach-Melbourne 101.7 is now talk radio during the week and dance music mixes all weekend, simulcasting with WZZR Stuart 92.7 FM and WTKS Cocoa Beach-Orlando 104.1 FM. WAMT Titusville 1060 is now WIXC with a mixture of talk and standards. WFIV Kissimmee 1080 became WHOO with “The Music of Your Life” nostalgia. WHOO Orlando 990 became WDFZ as the new home of Radio Disney. WNWZ Orlando 740 is now WQTM sports talk formerly on 540 AM. WQTM Pine Hills 540 call letters are now WFLW, but they ID as Newsradio 540 WFLA, carrying much of the same programs as the real WFLA Tampa 970 AM. And lastly, WTMS Melbourne 1560 has become WDOA “The Touch” with an urban adult contemporary music format.

Not to be outdone, changes have rocked the radio dial in Cleveland, Ohio and surrounding communities. WHK-FM has moved from 98.1 to 95.5 FM, the former home of classical music station WCLV, and changed its call letters to WHFM to become “The Fish” with contemporary Christian music, dropping the simulcast with WHK AM. WKDD Akron, formerly 96.5, took over 98.1 FM. WCLV now plays classical music on 104.9 FM, with WAKS Lorain moving from 104.9 to WKDD's former frequency of 96.5 FM. WCLV is also simulcast on WBKC Painesville 1460 AM. WHK AM moved its religious programming from 1420 to 1220 AM, and WKNR moved sports talk radio...
from 1220 to 850 AM, WRMR Cleveland 850 moved to what is now WCLV AM on 1420 and continues to broadcast nostalgia.

Barry Scott’s “Lost 45’s” radio show has found a new home in Boston, Massachusetts, on WROR 105.7 FM. Barry keeps the one-hit wonders and underachieving singles from Top-40 radio of the ‘60s, ‘70s, and ‘80s alive on his program. You can hear the weekly Lost 45’s program on the Internet at www.lost45.com. According to Barry, the website has been receiving over 250,000 hits a month.

### QSL Information

970 KANM Modesto, California, a letter and newspaper article from the Stockton Record on the 1999 KSTN DX Test, received in seven days after follow-up report, signed Paul Shinn-CE. Address: 1581 Cummins Dr #135, Modesto, CA 95358. (Martin, OR)

1010 KSIR Fort Morgan, Colorado, a friendly letter and coverage map in nine days for a follow-up report, signed John Jenkinson III, PD & CE. Address: 231 Main Street, Fort Morgan, CO 80701. (Martin, OR)

1150 KKNW Seattle, Washington, formerly KSRB, a nice verification letter along with a KLSY 92.5 FM thermometer refrigerator magnet in five days, signed George Bisso-Director of Engineering. Address: 3650 131st Avenue SE, Suite 550, Bellevue, WA 98006. (Martin, OR)

1330 KLBO Monahans, Texas, verification letter and “Radio Free Texas” bumper sticker in seven days, signed Rick Anderson. Address: 1706 E Sealy, Monahans, TX 79756. (Griffith, CO)

1660 KWSJ Kansas City, Kansas, received verification in seven days after follow-up, signed Ken Wolf-CE. Address: 4935 Belinder Rd, Westwood, KS 66205. (Martin, OR)

### Broadcast Loggings

Paul McDonough of Boston Area DXers (BADX) does some detective work regarding unlicensed AM broadcast activity in the hub saying: “My tentative logging of Radio Energy on 1620 kHz a few weeks ago has a little more credibility today. I noticed the signal at home (Medford, Massachusetts) went from a noisy S8 to almost full-quieting 10dB/S9 on my Drake R8 (preamp off) with a random 90-foot wire antenna. The signal has been booming in. So I thought if they were increasing their effective radiated power, maybe they’ve created a web presence too. Bingo! I found them listed on a Haitian radio page as Radio Energy in Boston on 1620 kHz. Here’s the link: www.cyber-haiti.com/happenin/radioshow.htm. Now I just have to find a phone number or address... I checked an on-line phone book (yahoo.com) and typed in Radio Nouvante (1640 kHz) and
came up with two addresses and a phone number (which I think is on their website). The two addresses are Radio Nouveauté, 15 Gilmer St, Mattapan, MA 02126, and 1333 Blue Hill Ave, Mattapan, MA 02126. In both cases, the phone number is 617-298-1640 (note the last 4 digits and frequency). Now if I can just find the stations on 1670 and 1690 kHz ...

T. Sanders reports some interesting summertime FM DX. "While traveling around my home area in southwest Indiana, I heard many stations up and down the FM dial that originated in south Texas. I documented a few; 87.7 Houston (TV?), 89.5 KLUX Corpus Christi, and 101.3 Corpus Christi, Texas. Many were in Spanish, and many more were warbling in and out with local and other distant stations. At the time of reception, I was between Petersburg and Washington, Indiana." Nice! Openings have been few and far between during this year's FM DX season.

Now the rest of the logs, all times are UTC.

675 Radio 10, Lopik, Netherlands, fair to good with WRKO phased at 0131, heard "When I Need You" by Leo Sayer, a couple of words in Dutch, then "Surfer Girl" by the Beach Boys. (Connelly, MA)

1070 KFTI Wichita, Kansas, after repairing my eastern Beverage this week with some new wire, logged KFTI with old C&W music and an ID at 0701, then a couple of words in Dutch, then "Surfer Girl" by the Beach Boys. (Connelly, MA)

1230 WNEZ Manchester, Connecticut, while listening to "Noticias 1230 WNEZ" I heard an ID for WNNY New York and a traffic report for the New York area. I believe that this is a simulcast of Mega's Spanish all-news radio station in New York, WNNY. (Walker, CT)

1340 KKYD Denver, Colorado at 0605 with BBC World News typical SW fare but always sounds strange when heard on a local AM. (Griffith, CO)

1410 KWWO Sheridan, Wyoming, at 0546 "More music and memories" ID and mention of suburbs of Ranchester and Big Horn, totally dominant over semi-local K11X. (Griffith, CO)

1530 VOA Pinheira, Sao Tome e Principe at 2323 tentative with a 1-kHz test tone mixing with WDJZ and WVBF, only heard with cardioid array set for eastern pick-up. This station often runs such test tones when not on regular programming. (Connelly, MA)

1640 KBJA Sandy, Utah, heard poor to fair with Radio Unica and other Spanish programming from 0650 to 0800. No ID caught at 0700, because of extreme QRM from WKSH. At 0759, I heard an announcer mention "KBJA, AM 1640 Sandy...KHQN 1480, Spanish Fork," then a Radio Unica ID, but still rough to copy from WKSH. Either WKSH is unusually strong tonight, or KBJA is weak. (Martin, OR)

1660 KAXW Merced, California, is now on the air running JRN's Spanish format parallel 1580 kHz. IDs for both on the hour. Great signal at 0300. (Martin, OR)

1690 WPTX Lexington, Maryland, is off the air pending sale of the station. In its absence I'm hearing an unidentified station with French Caribbean music (another unlicensed Haitian broadcaster in Boston?) and WQO 256, a New York high-way advisory radio station. (Conti, NH)

106.5 WMEX Farmington, New Hampshire, received when conditions are right, playing oldies complete with classic WMEX jingles from the early days of rock on AM radio! (Conti, NH)

Best wishes to legendary "Rest of the Story" radio commentator Paul Harvey who has undergone surgery to repair a weakened vocal chord. Paul Harvey is expected back on the air soon. Thanks to Mark Connelly, Patrick Griffith, Patrick Martin, Paul McDonough, T. Sanders, Paul Walker, and Keith Willis. 73 and good DX!
Alaska's LORAN Chain

When one thinks of the Coast Guard, you normally think of white and orange C-130 Hercules, and H-60 Jayhawk helicopters flying the coasts on search and rescue missions, or cutters patrolling for illegal aliens and drug smugglers. You think of the oceans or the Great Lakes. What you don't think of are land-locked radio sites in the middle of the country or near the Alaska/Yukon border. Yet, that is also where you may find them.

Located just three miles southeast of Tok, (rhymes with poke or Coke) Alaska along the Alaska Highway is the main transmitter and monitoring site for the Gulf of Alaska LORAN chain. It's part of the LORAN system funded by the U.S. Department of Transportation. The Aeronautical Information Manual pilot/controller glossary defines LORAN as "(a) electrical navigational system by which hyperbolic lines of position are determined by measuring the difference in the time reception of synchronized pulse signals from two fixed transmitters. Loran A operates in the 1750-1950 kHz frequency band. Loran C and D operate in the 100-110 kHz frequency band." Twenty-seven LORAN (LOng RAnge Navigation) transmitters provide signal coverage for the continental U.S. and the southern half of Alaska are distributed from Caribou, Maine to Attu Island in the Aleutians. Operations are organized into sub-groups of four to six stations called "chains." One station, in this case Tok, is designated the "Master" station and the others, in this case Port Clarence, Shoal Cove and Narrow Cape, are "secondary" stations.

The LORAN signal is a structured sequence of brief radio frequency pulses centered at 100 kHz. The sequence of transmissions consists of a pulse group from the Master (M) station followed at precise time intervals by groups from the secondary stations, which are designated with the letters V, W, X, Y, and Z. All secondary stations radiate pulses in groups of eight except the Master radiate an additional ninth pulse.

The time interval between the reoccurrence of the Master pulse group is called the Group Repetition Interval. This interval is the same for all stations in a chain and each LORAN chain has a unique interval. The northeast chain uses an interval of 99,600 microseconds, which is shortened to 9960 for convenience. The Gulf of Alaska chain uses an interval of 79,600 microseconds. The line between the Master and each secondary station is the "baseline" for a pair of stations. Typical baselines are from 600 to 1,000 nautical miles in length.

Before a LORAN receiver can provide navigation info for a pilot it must "acquire" signals from three or more stations in a chain. The basic measurements made by LORAN receivers are the differences in time-of-arrival between the Master signal and the signals from each of the secondary stations of a chain. Each "time difference" value is measured to a precision of about 0.1 microseconds. As a rule of thumb, 0.1 microseconds is equivalent to about 100 feet.

The airborne LORAN receiver has four major parts — a signal processor, navigation computer, control/display and antenna. The signal processor acquires LORAN signals and measures the difference between the time-of-arrival of each secondary station. The navigation computer converts the time difference to corresponding latitude and longitude. This is then displayed for the pilot's use. The signal accuracy of LORAN is plus or minus 0.25 miles. However with the advent of the Global Positioning System (GPS) the FAA is in the process of canceling all LORAN non-precision approaches. Originally the LORAN-C system was to be terminated at the end of 2000 but will still be operated until it is concluded that it is not needed or no longer cost effective. So, for the time it's still working.

Various Chains

There are numerous North American LORAN chains. In addition to the Gulf of Alaska Chain, there are the North Pacific Chain, Saint Paul AK Master, Canadian West Chain, William Lake British Columbia Master; U.S. West Coast Chain, Fallon...
A look at a Loran transmitter.

NV Master; North Central U.S. Chain, Havre MT Master; South Central U.S. Chain, Boise City OK Master, U.S. Great Lakes Chain, Dana IN Master, U.S. Southeast Chain, Malone FL Master, Northeast U.S. Chain, Seneca NY Master, and Canadian East Coast Chain, Caribou ME Master. Besides each system main transmitter/monitor there at additional master monitor stations operated by the Coast Guard, one in Petaluma CA and the other in Alexandria VA.

NEW/COMMISSIONED FREQUENCIES
CA
Death Valley National Park (L06)
RCO 122.2/255.4

FL
Venice Municipal (VNC)
CD 118.075

GA
Carrollton/West Georgia Regional/Gray Field (CTJ)
Apch 121.6
Covington Municipal (9A1)
Apch 119.875
Summerville/Wyatt Airport (GA23)
Unicom 122.8

MI
Manistee/Blacker (MBL)
ILS Rwy 27 108.35

MO
Columbia Regional (COU)
Apch 353.7
LC 363.25

OH
Wilmington — Clinton Field (166)
AWOS-3 124.175

TX
Austin — Bergstrom International (AUS)
CTAF 122.95

VA
Norfolk International (ORF)
Apch 119.55

WY
Rock Springs/Sweetwater County (RKS)
ASOS 118.375

CHANGED FREQUENCIES
CA
Oakland TRACON (OAK)
Hayward Executive (HWD)
Mountainview/Moffett Federal Airfield (NUQ)
Oakland (OAK)
Palo Alto (PAO)
San Carlos (SQL)
San Francisco International (SFO)
San Jose/Reid/Hillview (RHV)
Apch was 350.8, now 310.8
was 346.0, now 290.25
was 322.0, now 270.35
Livermore Municipal (LVK)
Apch was 368.7, now 239.25

FL
Destin (DTS)
Eglin Apch was 127.7, now 121.6

LA
White Lake (LLA)
VOR was 111.4, now 110.4

MN
Minneapolis ARTCC (AMP)
Redwood Falls HI RCAG
was 269.025, now 263.05

NC
Elizabeth City CG Air Station (ECG)
Apch was 127.9, now 119.55
Kinston Regional Jetport (ISO)
Apch was 338.0, now 335.55

www.popular-communications.com
ND
Fargo Apch (FAR)
Ada/Twin Falls, MN (D00)
Casselton Regional, ND (5N8)
Fargo/Hector International, ND (FAR)
Hawley Municipal, MN (04Y)
Hillsboro Municipal, ND (3H4)
Moorehead Municipal, MN (JKJ)
Apch was 395.9, now 377.15
Fargo Apch (FAR)
Apch was 255.6, now 370.85

NM
Albuquerque ARTCC (ZAB)
Globe 1 RCAG was 258.3, now 239.05

NY
New York TRACON
East Hampton (HTO)
Montauk (MTP)
Southampton (87N)
Westhampton Beach/The Francis S. Gabreski (FOK)
Apch was 132.25, now 118.95
Farmingdale/Republic (FRG)
New York/John F. Kennedy (JFK)
Apch was 388.0, now 353.75

DECOMMISSIONED/DELETED FREQUENCIES
GA
Macon/Middle Georgia Regional (MCN)
ATIS 327.5
Macon AFSS (MCN)
Rome RCO (RMG) 122.1

OH
Dayton/Wright Patterson AFB (FFO)
LC 290.275

WA
Fort Lewis/Tacoma/Gray AAF (GRF)
Ops 34.6 kHz/141.5/379.1

WV
Mineral Wells/Scott Field (WV64)
CTAF 122.9

CHANGED IDENTIFIERS
AK
Kenai/Carty's Airstrip was 45A, now 8AK2

CT
South Woodstock/Woodstock was 01B, now 64CT
Torrington/O and G Heliport was 0N2, now 05CT

DE
Selbyville/Warrington Field was 0N7, now DE27

The coupler between transmitter and antennas.

A close-up of a transmitter panel.

In front of the Loran station.
FL
Delray Beach/Antiquers Aerodrome Airport was 3X1, now FD08
Havana/Rutten Dusting Strip Airport was 87J, now FD55
Okeechobee was Recreation Corporation Airport (33X), now The Muggrew Ranch (33FA)

GA
Sylvania/Wade Plantation Airport was A00, now GA88

IA
Martelle/Lerchs Airport was 7C0, now 621A

KS
Holyrood Municipal was 29K, now 87KS
Valley Center/Miles Airport was 7K3, now 46KS

MD
Cambridge/Dorchester General Hospital Heliport was 9W6, now MD33
Cecilson/Hexton Farms Airport was 0W5, now MD93
Farmington airport was 1W6, now MD94
Finksburg/Reservoir Airport was 1W8, now MD95
Piney Point Airport was W21, now MD96
Ridge/Chandler Airport was 2W9, now 3MD9
Riverside/Burgess Field Airport was 3W1, now 8MD6

MI
Millington/Grass Roots Stolport was 78G, now 9M15

MS
Philadelphia/McLain — Calico Airport was 34F, now MS70

NE
Beaver City/Hewett's Airport was 4V3, now 84NE
Culbertson/Hock Airport was 46V, now 13NE
Laurel Municipal was 100, now 4N5

NJ
Atlantic City/Steeplechase Pier Heliport was N26, now NJ57
Bargaintown/Nordheim Flying K Airpark Airport was 1N6, now NJ58
Salem Airfield Airport was 27N, now NJ74

NY
East Palmyra/Oak Ridge Airport was 1G9, now NY16
Hannas Acres Airport was D75, now NY15
Ithaca/Neno International Airport was 9N5, now NY18

OH
Alliance was 0G8, now OH48
Bristolville/Bristol Airstrip was 3D6, now 20A1

PA
Connellsville Airport was 2G3, now VVS
Franklin/Fisher Airport was 28D, now 0PA5

VT
Shelburne Airport was 9B3, now 25VT

WV
Mineral Wells/Scott Field Airport was 471, now WV64

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How To Break The BBC Habit

A lot of folks are more than a little put out at the BBC’s closure of its North American Service and, from what we hear, are interested in some alternative listening ideas. Iowa's Jim Conrad has put together a list of suggestions. It would be hard to find anyone whose head is filled with more information about who is operating where — and when — and airing what — and relayed by whom. Here's his personal, "it's not-the-BBC" listing of stations you can turn to for interesting information and entertainment on the bands:

<table>
<thead>
<tr>
<th>Time</th>
<th>Station</th>
<th>Frequency</th>
<th>Notes</th>
</tr>
</thead>
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<tr>
<td>0000</td>
<td>Spanish Foreign Radio on 15385</td>
<td>15385</td>
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<tr>
<td>0000</td>
<td>Radio Japan via Sackville, Canada on 6145</td>
<td>6145</td>
<td></td>
</tr>
<tr>
<td>0000</td>
<td>Dutch Horizons (U.S. Sun.) R. Netherlands 6165 &amp; 9845</td>
<td>6165 &amp; 9845</td>
<td></td>
</tr>
<tr>
<td>0000</td>
<td>Research File (U.S Mon.) R. Netherlands 6165 &amp; 9845</td>
<td>6165 &amp; 9845</td>
<td></td>
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<tr>
<td>0000</td>
<td>Music 52-15 (U.S. Tues.) R. Netherlands 6165 &amp; 9845</td>
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<td>The Weekly Commentary (U.S. Wed.) R. Netherlands 6165 &amp; 9845</td>
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<td>Talking It Over (U.S. Thurs.) R. Netherlands 6165 &amp; 9845</td>
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<td>A Good Life (U.S. Fri.) R. Netherlands 6165 &amp; 9845</td>
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<td>0030</td>
<td>Aural Tapestry (U.S. Sat.) R. Netherlands 6165 &amp; 9845</td>
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<td>0100</td>
<td>News line (U.S. Mon.-Fri.) R. Netherlands 6165 &amp; 9845</td>
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<td>0100</td>
<td>Radio Canada International news - 9755/13670/15305</td>
<td>9755/13670/15305</td>
<td>with features and sports report</td>
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<tr>
<td>0110</td>
<td>Canada Today (Tues.-Sat.) with features and sports report</td>
<td>9755/13670/15305</td>
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<td>0300</td>
<td>Aural Tapestry (U.S. Sat.) R. Netherlands 6165 &amp; 9845</td>
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<td>0300</td>
<td>Roughly Speaking (U.S. Fri.) R. Netherlands 6165 &amp; 9845</td>
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<td>0500</td>
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<td>0500</td>
<td>A Good Life (U.S. Sun.) R. Netherlands 6165 &amp; 9845</td>
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<td>0500</td>
<td>Roughly Speaking (U.S. Fri.) R. Netherlands 6165 &amp; 9845</td>
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<td>0530</td>
<td>From Sapphire to Laser — Radio Netherlands (U.S. Thurs. on west coast)</td>
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<td>0515</td>
<td>Sincerely Yours — Radio Netherlands (U.S. Thurs. on west coast)</td>
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<td>0545</td>
<td>The World Ahead — Radio Netherlands (U.S. Mon. - Fri.)</td>
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<td>Radio Netherlands News and Newsline (U.S. Mon.-Fri.)</td>
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<td>Europe Unzipped — Radio Netherlands (U.S. Sat.)</td>
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<td>0635</td>
<td>Sincerely Yours — Radio Netherlands (U.S. Sun.)</td>
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<td>The Week Ahead — Radio Netherlands (U.S. Sun.)</td>
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<td>1515</td>
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by Gerry Dexter

How To Break The BBC Habit

A lot of folks are more than a little put out at the BBC’s closure of its North American Service and, from what we hear, are interested in some alternative listening ideas. Iowa's Jim Conrad has put together a list of suggestions. It would be hard to find anyone whose head is filled with more information about who is operating where — and when — and airing what — and relayed by whom. Here's his personal, "it's not-the-BBC" listing of stations you can turn to for interesting information and entertainment on the bands:
If you find that you really enjoy some of these programs, why not take a moment and send the station a postcard?

For those of you who are slavishly devoted to the BBC and unable to break the habit, Jim has also provided some time/frequency best bets:

5975 via Antigua (this will remain, aimed at the Caribbean, Central and South America) from 2300-0400. Also 6135 from 0200 to 0400, 6175 from 0400-0700, 9915 from 0000 to 0300, 12095 from 2100-0300, 15220 (probably Antigua) from 1100-1400 and 17840 from 1400 to 1700. A big thanks to Jim who took the time and trouble to put all this together for us!

Christian Voice has now begun regular broadcasts from the Darwin, Australia, site, running five and a half hours per day to Indonesia, although at present, the programming is just a relay of their service for Africa. Eventually CV will have an Australian production center doing programming for its Asian audience. At this writing, Christian Voice is active only in the most minimal fashion, running very low power. Even listeners in the U.S rarely report it. It's listed for 24-hour operation using 73.95 or 15420, depending on time of day.

This month's book winner is Brian Alexander of Mechanicsburg, PA. Brian's received a copy of Joe Carr's Receiving Antenna Handbook from Universal Radio. One book you should have handy is Universal's giant catalog of radio goodies — everything from receivers to connectors to software to books to antennas. Get one by calling 614-866-4267 or E-mail at dx@universal-radio.com or write them at 6830 Americana Parkway, Reynoldsburg, Ohio.

Photos, illustrations, copies, pictures. QSLs, photocopies, photos — no matter what you call 'em — we need 'em! Whether the subject is a station transmitter, building, antenna, studio, employee, operating schedule or even (gasp!) a picture of you and your listening post, it's more than welcome here. And the more the merrier!

Of course, your reception logs are always wanted, too. We make every effort to use most, if not all, of the logs sent in. So don't be shy or feel yours aren't good enough. They are! Just be sure to make every effort to use most, if not all, of the logs sent in, so don't be shy or feel yours aren't good enough. They are! Just be sure to make every effort to use most, if not all, of the logs sent in, so don't be shy or feel yours aren't good enough. They are! Just be sure to make every effort to use most, if not all, of the logs sent in, so don't be shy or feel yours aren't good enough. They are! Just be sure to make every effort to use most, if not all, of the logs sent in, so don't be shy or feel yours aren't good enough. They are! Just be

And guess who else is now using the Darwin site? None other than — Radio Australia! They are on 21680 in Indonesian from 0000-0030, 17775 in English from 0000-0130, 21680 (Indonesian) from 0400-0430 and again from 0500-0530. Also 9865 from 2130-2330 (Indonesian) and 13620 in English from 2200-0000. Somebody dug up some dollars somewhere.

World Beacon, based in Jacksonville, FL, has begun service to Russia and Eastern Europe, via the Merlin site at Woolston. It's on the air daily from 1400-1800 on 17795. Reports can be sent to: mailto:reception@worldbeacon.com. World Beacon also broadcasts to Africa from 1800-2200 on 9675 (Rampisham, England — though, by now, this may be coming from the UAE). To quote from Scott Westerman, who keeps interested parties up-to-date on World Beacon's activities: "When we began this project in April of last year a number of people told us that shortwave was a dying medium. The mail and a healthy stable of clients so far has proved otherwise."

When old transmitter sites pass away, they become shopping centers! At least that's what's happening at the old Voice of America site at Bethany, near Cincinnati. The VOA closed down the site in 1994 and then gave (gave!) the property, valued at $20 million, to West Chester Township. In addition to the shopping center the township is planning a 330-acre park on the site. Miami University will also build a satellite campus there. A golf course is also in the works.

The High Adventure Radio Network is seeking reception reports for its station in Babeldoab Island, Palau, which operates on 9985 from 1100-1200. Letters should go to Rev. Dr. Bill Burton, High Adventure Radio, P.O. Box 66, Koror, Palau 96940. The station is also listed for 9965 and it's unclear whether both frequencies are in operation.

Good News World Outreach has purchased WRNO Worldwide, in New Orleans, based in Ft. Worth, Texas, so watch for some developments there. At the moment, the station is active only in the most minimal fashion, running very low power. Even listeners in the U.S rarely report it. It's listed for 24-hour operation using 73.95 or 15420, depending on time of day.

More SW News

Some marvelous old Hallicrafters sets grace the shack of reporter Rick Barton in Phoenix, Arizona.
To All Recent Correspondents.

Yes, it is true. I am a dolt. I am a twit. I am a wiener. However, I really do not care about your opinion.

Yours,
Mark Byford

Not only has the BBC lost its hold on common sense, its reputation as a class act isn’t in the best shape, either!

sure to list your logs by country and leave enough space between them so we can navigate scissors easily. Logs are cut into strips and then sorted by country, so be sure to use on only one side of the paper otherwise some of your logs won’t survive. Also include your last name and state abbreviation.

Here are this month’s logs. All times are in UTC, which is five hours ahead of EST, i.e.0000 UTC equals 7 p.m. EST, 6 p.m. CST, 5 p.m. MST and 4 p.m. PST. Double capital letters are language abbreviations (FF = French, AA = Arabic, SS = Spanish, etc.). If no language abbreviation is included the broadcast is assumed to have been in English.

ALASKA — KNLS, 11765 in RR at 0935. (Newbury, NE)
ALBANIA — Radio Tirana, 7160 at 0245. (Weronka, NC) 9540 at 2140. ID’d at 2155. (Burrow, WA)
ANTIGUA — BBC relay, 5975 at 0325. (MacKenzie, CA) Deutsche Welle relay, 9670 with a feature at 0519. (Newbury, NE) 9690 in GG at 0915. (Barton, AZ) 11985 at 0622 in GG. (Foss, Philippines)
ANGOLA — Radio Nacional, 4950 at 0300 with pops, ballads. FF news on the hour. //11955.8, both fair. Also heard at 2315. (Alexander, PA)
ASCENSION ISLAND — BBC relay, 12095 at 2215 with interview and news. (MacKenzie, CA) 17830 at 1806 and 21630 at 1846. (Jeffery, NY)
AUSTRALIA — Radio Australia, 5995/6020 with an interview at 1140, 6020 to the Western Pacific at 0924. 9580 at 1123 (Newbury, NE) 1622. (MacKenzie, CA) Also 9710 in Pilgrim to Southeast Asia at 1012, 0952. (Newbury, NE) 0942. (Jeffery, NY) 11650 at 1150 and 1450. (Brossell, WI) 1300 to the Solomon Islands. (Provencher, ME) 1435. (Miller, WA) 13605 at 0930. (Barton, AZ) 17750 at 0140. (Foss, Philippines) 17795 at 2200 with IS and sign-on. 21740 at 2147. //17715. (MacKenzie, CA)
AUSTRIA — Radio Canada via Austria. 11835 with news in AA at 0330. (Brossell, WI) Adventist World Radio, 15195 at 2100 with “New Life” program for Africa. (Silvi, OH) Everest Radio, 7235 via Moosbrunn. 2102. Mainly nice Nepali music but some EE talks. Off at 2130. (D’Angelo, CA)
BELARUS — Radio Minsk, 7210 at 0200 sign-on with IS, EE news, commentary, and local music. (Alexander, PA)
BELGIUM — RTBF Int’l, 9970 at 0600 with FF ID, theme, man announcer. (Newbury, NE)
BRAZIL — Radio Brazil Central, 11815 at 0245 with PP jingle ID and music. (Brossell, WI) Radio Gaucha. 11915.1 at 0237 with commercials. ID and frequency announcements, several mentions of Porto Alegro and some pop numbers. All PP. (D’Angelo, PA) Radio Nacional da Amazonas, 6180 at 0936 with call-in show in PP. (Becker, WA)
BULGARIA — Radio Bulgaria, 9400 to North America at 0200–0300. Suffering from use QRM. (Silvi, OH) 0211, //11700 with news, weather and ID “This is Radio Bulgaria.” (Brossell, WI)
CANADA — Radio Canada Int’l, 15305 at 1401 with CBC News. (Wilden, IN) 17820 at 1235. (Northrup, MO) 17880 with news and financial markets. //17695, 15305 and 13670. (MacKenzie, CA)
CHINA — China Radio Int’l, 15210 at 0927 with interview and “Life in China.” (Jeffery, NY) 15415 with news at 1208. (Brossell, WI) 17785 in CC at 1235. (Northrup, MO) China National Radio (ex. CPBS) 5880 from Shijiazhuang in CC at 1227. 5920 from Nanning in CC at 1136 and 7230 from Xi’an in CC at 124. (Becker, WA) 17890 in CC at 0506. (Foss, Philippines) Voice of Jingling, Nanjing, 5860 in CC to Central Asia at 1235. (Becker, WA) Voice of the Strait, 7280 in CC at 1015. (Newbury, NE)
CHILE — Voz Cristiana, 21550 in SS with Christian rap in SS. (Newbury, NE) (Is there such a thing? — Ed)
COLOMBIA — Radio Nacional de Colombia, 9635 in SS with news at 0202. (Miller, WA)
CONGO — Radio Congo, 4765 at 2210 in FF with talk, Afro-pop. Abrupt sign off at 2303 without anthem. (Alexander, PA) 2247 with hi-life music and FF talk by man with ID and sign-off annmts at 2255. Also at 0424 sign-on. Open carrier until audio suddenly appeared at 0429 with hi-life vocals, FF talks. ID. (D’Angelo, PA)
CROATIA — Radio Croatia, via Germany, 9925 in presumed Croat with music and annmts at 0240. Also at 0330 on 11810 with music talks and several clear “Radio Croatia” IDs. (Brossell, WI) 0300 with news in EE. (Weronka, NC) 0525 in Croatian. Off at 0558. (Newbury, NE)
CUBA — Radio Havana Cuba, 9550 at 0516 with news items in EE. (Newbury, NE)
CYPRESS — BBC relay, 11845 with talks at 0247. (Brossell, WI) 21740 at 1741 with sports roundup. (Newbury, NE)
CZECH REPUBLIC — Radio Prague 7345 with Czech poetry at 0310 and “Encore” program. (Brossell, WI) 11615 at 0010 with sports. (Weronka, NC)
DENMARK — Radio Denmark, via Norway, 18950 in DD at 0225. Martial-sounding music, ID. IS. (Northrup, MO)
ECUADOR — HCJB 17660 at 1924 with “Studio 9” and “Saludos Amigos.” (Jeffery, NY) 21455 at 0439. (Foss, Philippines) Radio Quito, 4919 at 0947 music with female announcer. Off at 0947. (Newbury, NE)
EGYPT — Egypt Cairo, 9900 in EE at 2300 with time pops and ID. (Burrow, WA) 2325 with news. (Weronka, NC) 0258 with AA ID and music at 0300. Also 15285 with Holy Koran at 0225. (Brossell, WI)
ENGLAND — BBC, 9515 via Canada at 0555 with “News Hour.” (Newbury, NE) 11765 at 0525 with item about British Telecom to venture into TV. (Newbury, NE) 15400 with “News Hour” at 0204. (Jeffery, NY) 17830 in CC at 1245 under Voice of Turkey. (Northrup, MO)
FINLAND — YLE/Radio Finland, 11990 with news in Finnish at 0206. (Miller, WA) 21670 at 0640 with feature on digital TV coming to Finland. (Foss, Philippines)
FRANCE — Radio France Int’l, 17605 at 1712 with “African Media,” “Today in France,” ID. (Jeffery, NY)
FRANCE— French Guiana — Radio France Int’l relay, 17630 in SS with news at 1800. (Brossell, WI) 17860 at 1230 with news in FF. (Northrup, MO)

Abbreviations Used in Listening Post
AA Arabic
BC Broadcasting
CC Chinese
EE English
FF French
GG German
ID Identification
IS Interval Signal
JJ Japanese
NA North America
OM Male
PG Program
PP Portuguese
RR Russian
Rx Religion/Fous
SA South America
SS Spanish
UTC Coordinated Universal Time (ex-GMT)
V Frequency varies
W With
WX Weather
YL Female
// Parallel Frequencies
GERMANY — Deutsche Welle, 15275 in GG with live sports coverage at 0000. (Jeffery, NY) 17730 in GG at 0300 and 17760 in AA at 0300. (Northrup, MO) Radio Ecclesia (Angola) via Germany, 13810 at 0745. Talk in PP to 1854 ID and frequency anmts. before off at 1836. Also 0500 sign-on with multiple PP IDs and frequency anmts. by man. Woman with religious talk at 0505; acappella singing and more talk. Multiple IDs at 0551 until Swiss Radio IS at 0555. (D'Angelo, PA) Radio Santec, 9435 at 0058 with open carrier, woman with sign-on anmt, into Universal Life program "to Learn to Live." Off with ID and address, which was cut off in mid-sentence. (D'Angelo, PA)

GERMANY — Voice of Germany, 7475 at 0300 with presumed news in Greek. Also 9420 in Greek at 0210 and at 2000 on 15630 with music and announcements in Greek. (Brossell, WI) 17705 at 1230 and 1300 in Greek. (Northrup, MO)

GUAM — Adventist World Radio, 11730/15265 at 2130 in presumed Mandarin with news at 1800. Libya with EE at 1900, ID 1909. (Burrow, WA) 0138 with ID by woman at 0143, talks about Palestine, ID as "Radio Baghdad International" at 0156. Poor audio, but very strong carrier level. Drifting slightly. Language change at 0204. (Montgomery, PA)

GUATEMALA — Radio Buenas Nuevas, 4800 with religious programming in SS at 1140. USB needed to detect "snoop-snoop." QRM. (Barton, AZ)

GUINEA — RTV Guineenne, 7125 with local music in FF at 0626. (Becker, WA)

HAWAII — AFN, Pearl Harbor, 6350 at 0650 with CBS Radio Network features to "You are listening to AFN" at 0700 and AP Network news. (D'Angelo, PA) 1100.

HONDURAS — HRMI, 5010 at 0330. Suppressed carrier USB. SS religious programs. Not heard for several weeks. Back with fair to good signal. (Alexander, PA)

INDIA — All India Radio, 11620 at 1449 with music and comment. (Miller, WA) 17640 with news at 1900, ID 1909. (Burrow, WA)

IRELAND — Radio Telefis Eireann, via Canada, 13640 at 1842 discussing a court trial. (Miller, WA)

ISRAEL — Kol Israel, 9390/11585 at 0240 with American pops and HH talks. (Brossell, WI) 9435/15640 at 1900 with time pips, ID, news. (Burrow, WA) 9435/17535 in HH at 1740. (Newbury, NE) 17745 in FF at 1630. (Provencher, ME) Galei Zahal, 6973 in HH to new sign-off time at 0258. Local pops and folk songs. Also 15788.5 at 0259 new sign-on time. Earlier it had been on 15785. (Provencher, ME)

ITALY — Rai Int'l, 11800 in II with pops heard at 0205. (Brossell, WI)

JAPAN — Radio Japan/NHK, 6145 via Canada with news at 0000. (Provencher, ME)

JORDAN — Radio Jordan, 11690 at 1624 with contemporary Western songs until ID at 1630 and into AA. (Burrow, WA)

KUWAIT — Radio Kuwait, 11675 with Holy Koran at 0217. Also 15505 in AA at 0217. (Brossell, WI) 11990 going into EE at 1800. (Burrow, WA) 1845 in EE with contemporary rock. (Provencher, ME) 15505 at 2000 and 0515, both times in AA. (Newbury, NE) 17885 in AA at 1240. (Northrup, MO)

LIBYA — Voice of Africa feature on Radio Jamahiriya, 17725. Best bet to hear EE news from Libya is now only at 2032-2040. Covered by Moscow in unil. language during check from 1730 to past 1800. Libya with EE also at 2334-2342 but poor and very weak under WYFR. (Alexander, PA) 2120 with EE news. Into FF at 2122. (Burrow, WA)

LITHUANIA — Radio Vilius, 9875 with news at 0045. (Provencher, ME)

MADAGASCAR — Radio Netherlands relay, 7280 in DD with ID at 0023 and anthem and off at 0025. (Montgomery, PA)

MALI — ORTM, 4835 at 2314 with tribal vocals, lively FF talk, ID and sign-off anmts at 2359, orchestral anthem and off at 0002. (Montgomery, PA)

MANAMA — Voice of Bahrain, 6977 at 2105 with news and comment. (D'Angelo, PA)

MEXICO — Universidad Catolica, 1230 in Spanish at 2200. (Provencher, ME)

MOROCCO — Radio Maroc, 11675 at 1205 with ID. (Brossell, WI)

MOROCCO — Radio L'Observateur, 11725 at 2000 with news. (McKenzie, CA)

MOROCCO — RRI-Gorontalo, 3264 in II at 1700. (Becker, WA)

MOROCCO — Radio Islam, 11680 at 1446 with news. (Brossell, WI)

NIGERIA — Voice of Nigeria, 12385/14765 in II at 2314. (Brossell, WI)

NICARAGUA — Radio Central American University, 15084 at 0230 in presumed Mandarin. (MacKenzie, CA)

NORTH KOREA — Radio Pravda, 1202. (Becker, WA)

ROME — Radio Romanum, 11730 in II at 1919. (Burrow, WA)

ROMANIA — Radio Romana, 9595 in JJ at 1626 giving the address for musical requests and reception reports, frequencies and ID "This is Radio Japan, NIKH Worldwide." (Brossell, WI) 17810 in Malay at 2236. 17825 in JJ at 2219. 16760 with EE/JJ language lesson at 2215. Man with ID, 3 time pips, tone and off at 2200. (MacKenzie, CA) Radio Tampa/NSB, 3925/3945 in JJ at 1123. But not in parallel at 1212. 6115 in JJ at 0929. (Becker, WA) 3945 at 1205 in JJ. Sounded like a horse racing being called. (Barton, AZ) 9595 in JJ at 1626 two men with pops behind them, later the same with two women. (MacKenzie, CA)

PORTUGAL — Radio Portugal, 11990 going into EE at 1800. (Provencher, ME) 1845 in EE with 3945 in 11 at 1123. But not in parallel at 1212. 6115 in JJ at 0929. (Becker, WA) 3945 at 1205 in JJ. Sounded like a horse race being called. (Barton, AZ) 9595 in JJ at 1626 two men with pops behind them, later the same with two women. (MacKenzie, CA)

SOUTH AFRICA — Radio SABC, 11675 at 1439 with news. Into FF at 2122. (Burrow, WA)

SOUTH KOREA — Radio Munhwa, 9585 in SS at 1009. (Becker, WA) 11730 at 1458 giving the address for musical requests and reception reports, frequencies and ID "This is Radio Japan, NIKH Worldwide." (Brossell, WI)

SPAIN — Radio Marca, 17840, //13700, 17895 at 1014 with local music, man announcer, ID at 1028 and into "DX Calling" letters program. (Montgomery, PA)

SUISSE — Voice of Switzerland, 9525 in Thai at 1003. (Becker, WA) 1200 with presumed news. (Brossell, WI) 1050 with soft island music, woman in CC on the hour. (Newbury, NE) Radio Republik Indonesia, Jakarta, 15125 at 1159 with Song of Coconut Islands, ID, talk, music, possible news. (D'Angelo, PA) RRI-Serui at 1247 in II. (Miller, WA) RRI-Gorontalo, 3264 in II at 1202. (Becker, WA)

SWITZERLAND — Swiss Radio, 11730//15265 at 2130 in presumed Mandarin with news at 1800. Libya with EE at 1900, ID 1909. (Provencher, ME) Galei Zahal, 6973 in HH to new sign-off time at 0258. Local pops and folk songs. Also 15788.5 at 0259 new sign-on time. Earlier it had been on 15785. (Provencher, ME)

THAILAND — Voice of Thailand, 1202. (Becker, WA)

UNITED STATES — KABC, 1510 at 0700 and more talk. Fading and becoming quite watery by 0712 as Mali in daylight. (D'Angelo, PA)

VENEZUELA — Radio Caracas, 11730 in Spanish at 2200. (Provencher, ME)

VIETNAM — Voice of Vietnam, 7475 at 0200 with news and ID. (D'Angelo, PA)

YUGOSLAVIA — Voice of Yugoslavia, 11680 at 1205 with ID. (Brossell, WI)

YUGOSLAVIA — Radio Yugoslavia, 9435/14765 in II at 2314. (Brossell, WI)

This trim and efficient listening post belongs to regular reporter Dave Jeffery in Niagara Falls, NY. Radio Japan sent this card to David Weronka in North Carolina for his reception of the Canada relay. Fruitful!
MEXICO — Radio México Int'l. 9705 at 2345 with Mexican balads. (Væronnka, NC) Radio Educacion. 6185 with classical music at 0930. (Newbury, NE)

MOROCCO — RTV Marocaine. 11920 in AA at 0236. Also on 15345 at 1950, both in AA. (Brossell, WI) 1924 in AA. (Jeffery, NY)

NEW ZEALAND — Radio New Zealand. 9885 at 1018 to the Western Pacific. (Becker, WI) 11725 at 0630 with songs. (Newbury, NE) 15160 at 2005 with news. (D'Angelo, PA) 17675 with "In Touch With New Zealand" at 0226. (Jeffery, NY) 0243 with pop tunes. 0300 with weather. (Brossell, WI) 0330. (Barton, AZ)

NICARAGUA — Radio Misket, 5770 at 2345. Suppressed carrier. USB SS talk, light instrumental music. Off with anthem at 2356. (Newbury, NE)

NIGERIA — Voice of Nigeria, 7255 at 0507 with news. (Newbury, NE)

NORTH KOREA — Voice of Korea. 7140 in KK to Central Asia at 0943. 7580 in JJ at 0953 and 6575 in RR to Northeast Asia at 0941. (Becker, WA)

NORTHERN MARIANAS — Radio Free Asia relay, 11795 in CC at 1745. (Brossell, WI) 15510 at 1950 in Oriental language. (Newbury, NE)

NORWAY — Radio Norway, 11635 in NN at 0325. (Becker, WA) 1924 in AA. (Jeffery, NY)

NORWAY ANTILLES — Radio Netherlands relay, 15360 at 0246 with UK news items. (Newbury, NE)

NORWAY — Radio Norway. 11635 in CC. (Becker, WA) Radio Norway, 7195 at 0511. (Newbury, NE)

PAPUA NEW GUINEA — Rugby League, 15430 kHz (19,01)

PARAGUAY — Radio Nacional, 9735 in SS at 0914 with music and talk. (Becker, WA)

PAPUA NEW GUINEA — Radio New Guinea, 3905 at 0905 with national news in EE Karai Service. Also at 1211 with news/weather. (Becker, WA)

PAPUA NEW GUINEA — NBC, 4890 at 0905 with national news in EE Karai Service. Also at 1211 with news/weather. (Becker, WA)

PHILIPPINES — Radio Veritas, Asia, 9520 with religion in CC at 1042. (Newbury, NE) 1001 in CC. (Becker, WA) Far East Broadcasting Company, 15095 in pressured Tagalog at 1215. (Becker, WI) VOA relay, 17820 at 2225. (MacKenzie, CA)

PORTUGAL — RDP Int'l. 11800 at 2234. Man and woman talking in PP. (MacKenzie, CA) 17615 in PP at 1805. Announcer and crowd shouting in background. (Brossell, WI)

RUSSIA — Voice of Russia, 11775 kHz (49mts) at 0952. Into KK at 1000. 9480 at 1000 with IS and into in CC. (Becker, WA) 9765 at 0200 via the Vatican! (Provencecher, ME) 12000 in EE at 0209. (Miller, WA) Radio Rossiya via Magadan, 9530 in RR at 0636. (Becker, WA) Magadan Radio, 7320 in RR at 0948. (Becker, WA) Radio Tikhiy Okean, 12070 at 0714 with open carrier prior to a series of opening IDs and annuls at 0715. Mostly RR talks with some brief music segments. (D'Angelo, PA)

ROMANIA — Radio Romania Int'l. 11775 at 2300 to Western Europe. Listed frequencies to North America weren't audible. (Silvi, OH) 11940 with Romanian music at 0250. 15340 //15180 at 0220 with tourist program. 15455 in Russian at 1950. (Brossell, WI) 15105 with letters program at 2335. (Væronnka, NC) 17790 in Romanian at 1235. (Northrup, MO)

Czechoslovakian President Musaryk broadcasting to the USA in 1932.


SAO TOME — VOA relay, 9895 in African dialect at 0349. (Brossell, WI)

SAUDI ARABIA — Broadcasting Service of the Kingdom, 15205 with Holy Koran at 1750. (Brossell, WI) 17895 in AA at 1245. (Northrup, MO) 21495 at 0432 in AA. (Foss, Philippines)

SEYCHELLES ISLANDS — BBC Relay, 11730 with world news at 0300. (Brossell, WI)

SOUTH AFRICA — South African Broadcasting Corp., 3320 soft pops at 0311. (Brossell, WI) Trans World Radio, 11640 at 0603 with religious program. (Newbury, NE)

SOUTH KOREA — Radio Korea Int'l. 7275 in KK at 0948 with news items. (Newbury, NE) 9580 in SS to South America at 1005. (Becker, WA) 15575 at 0220. (Miller, WA)

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SINGAPORE — Radio Corporation of Singapore, 6000 kHz (49mts)

ISON — Radio Corporation of Singapore, 6000 kHz (49mts)

SOUTH KOREA — Radio Korea Int'l. 7275 in KK at 0948 with news items. (Newbury, NE) 9580 in SS to South America at 1005. (Becker, WA) 15575 at 0220. (Miller, WA)

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Radio Prague’s building in the Czech capital. The insert is a scene from the Warsaw Pact invasion in 1968.

SYRIA — Radio Damascus, 12085/13610 at 2055 with music documentary. ID, news at 2103 and end of EE at 2105. (Burrow, WA) 13610 at 2100 with music and comments. (Miller, WA)


THAILAND — BBC relay, 15280 at 1210 with music quiz program. (Brossell, WI)

TUNISIA — RTT Tunisienne, 7275 in AA at 0510. (Newbury, NE) 12005 in AA at 0255. (Brossell, WI)

TURKEY — Voice of Turkey, 9445 in presumed TT at 0200. 11655 at 0325 with program on the Turkish war of independence. (Brossell, WI) 11845 at 2217 with news, ID, contest annat and mailbag program. (Burrow, WA) 11885 at 0117 with news. (Miller, WA) 21783 with travel program at 1245. (Northrup, MO) 21715 at 0632 in presumed TT. (Foss, Virginia)

UKRAINE — Radio Ukraine Int’l, 12040 monitored at 0320 with Ukrainian poetry and music. 0338: “This program is coming to you from the studios of Radio Ukraine International.” (Brossell, WI)

UNITED ARAB EMIRATES — UAE Radio, Dubai, 13675 with program on music scholars at 0330. (Weronka, NC) 15395 at 1600 with music documentary. 0338: “Since 1971” (Montgomery, PA)

VATICAN — Vatican Radio, 7305 at 2245 to the Far East. (Provencher, ME) 0315 in SS with “Radio Vaticania” ID. (Brossell, WI) 9605 at 0250 with IS, ID, into EE. (Barton, AZ) 15570 at 0520. Change the world through social improvement. (Newbury, NE)

VENEZUELA — Ecos del Torbes, 4980 in SS at 0954 with music, ID. (Jeffery, NY)

VIETNAM — Voice of Vietnam, 9525 at 0100 with political news. (Provencher, ME) 0132 with Asian music. 0132 with “Radio Vaticana” ID. (Brossell, WI)

YUGOSLAVIA — Radio Yugoslavia, via Canada to ECE, 1950 with music quiz program. (Brossell, WI)

ZAMBIA — Zambia National Broadcasting Corp., 6165 with fish eagle IS at 0242, opening singing at 0252 to man in und. Language, short talks and music. Supposed to be an EE broadcast but mostly various African languages. Very little EE. (Montgomery, PA) 1234 in unid. language with annats and commercials. 100 Kw. (Becker, WA) Christian Voice, 4965 at 0210 with US contemporary Christian music, gospel music, short one to four minute religious radio dramas and messages. IDs, Off at 0257. (Alexander, VA)

ZIMBABWE — Radio Zimbabwe, tentatively 6045 at 2355 in und. language. Tentative ID at 0006 and later ID’d by matching content with the feed on their web site. Although listed as inactive on this frequency, it is ZBC-1. (Montgomery, PA)

That’s it! Let’s pour a tall, cool one for each of the following good and faithful Pop’Comm readers: Bruce R. Burrow, Snoqualmie, WA; Sue Wilden, Noblesville, IN; Brian Alexander, Mechanicsburg, PA; Robert Brossell, Pueblo, WI; Pete Becker, Clarkson, WA; Stewart MacKenzie, Huntington Beach, CA; David Weronda, Benson, NC; Dave Jeffery, Niagara Falls, NY; Robert Montgomery, Levittown, PA; Ed Newbury, Kimball, NE; Edouard Provencher, Biddeford, ME; Mike Miller, Issaquah, WA; Mark Northrup, Gladstone, MO; Lee Silvi, Menor, OH; Rick Barton, Phoenix, AZ and Marty Foss, Guaynayangan, the Philippines. Thanks to each of you! Until next month, good listening!
Radio & the Internet

Resource Of The Month: PicoSearch.Com — Add A FREE Search Tool To Your Website

"Special October Theme: Viruses - How NOT To Get Them"

One of the things I've noticed as I surf around the 'net is that more and more of you are setting up web sites. Congratulations! As you know, one of the nice features most commercial sites provide is a search tool for their sites' pages. Unfortunately, that usually means CGI (Computer Gateway Interface) programming that many ISP's (Internet Service Providers) do not permit — mine included. Well, PicoSearch levels the playing field for web designers by making high-end services available to non-server owners and beginners alike. Now you can provide a nifty search function at your site for FREE! If you can add HTML code (which THEY provide) to your site's page(s), you can EASILY add a search function to your site's visitors. The only thing you "pay" for the service is to permit PicoSearch to add their linked logo to the search function. PicoSearch works by indexing your entire site, the results of which are stored on their server. When someone does a search at your site, they're actually searching your site on PicoSearch's server — neat! That saves disk storage space on YOUR site. The FREE version will index up to 1,500 (yes, one thousand five hundred) pages! Not bad for a free service. As you add new material just return to your account at PicoSearch and reindex your site. If you've got a web presence (or are thinking about one), check 'em out at http://www.picosearch.com/.

PC Virus Threats

Due to the recent increase in computer virus activity, I've devoted this month's column to PC viruses. "Other Outstanding Resources," which normally appears here, will return next time.

During the past month I've received THREE E-mails, each containing an attached binary file (.EXE), infected with the "W32/Magistr@MM" virus. The image shows what a typical E-mail looked like when received. Please note that the actual filenames used (in this case, START.EXE) would probably be different. In all cases, the filenames were different for me and the E-mails were sent not by a person, rather the virus itself. Specifically, the virus used each person's E-mail address book(s) to obtain the intended victim's E-mail address and then send an infected E-mail to those addresses without the knowledge of the PC's owner. If I had "opened" or "run" any of those files, my PC would have been infected and those folks in my address book would have received an E-mail from "me" with an infected file — that's how the virus propagates.

Fortunately, these viruses were not able to do me (or those in my address book) any harm since I'm extremely skeptical of E-mail "binary attachments" and will not open (run) them unless I'm sure of their origin and they pass the scrutiny of a currently updated, "anti-virus" scanning program.

So, what can you do to protect yourself — and those folks in your address book(s)?

1. Take the time to look carefully at each E-mail you receive. If the subject line looks weird (maybe just some "garbage" in it — like the percent sign in my example image) or there's really no message just an attached executable file, a red flag should immediately go up. Even if it looks legit, do not open or run an attached binary file (those with the extensions .EXE, .COM, .BAT, etc) until you're sure it's safe. If the E-mail is from a friend, send them a note and ask if they actually sent it to you — if so, what the file is or does. Also ask if they scanned the file (for viruses) before sending it to you?

2. Scan all such files with a good anti-virus program before opening or running it — even IF your friend says it's OK.

3. Get into the habit of routinely scanning your PC for viruses or use a program that does it for you automatically.

4. If you use a stand-alone anti-virus program, visit the vendor's website frequently to obtain the latest updates.

It's a shame that the people who unleash their virus code on the public don't use their talents in a more constructive manner...
Typical E-mail with attached virus infected file.

you don’t have to be one of their victims. In terms of your PC becoming infected, an “ounce of prevention” is definitely worth more than a “pound of cure”—those of you who have had to completely rebuild your systems because of a destructive viral infection know exactly what I’m talking about! If your PC is currently vulnerable, you really should consider investing a few dollars to protect it. Some good sources for more information and appropriate “solutions” can be found at http://www.mcafee.com/ and http://www.symantec.com/avicenter/.

PC Virus Hoaxes

In a sense, a virus hoax is an “E-mail virus” propagated by good intentioned but misinformed people. You know the type of thing I’m talking about — you receive (usually) a forwarded E-mail from a friend warning you about this or that “E-mail” virus that, if read, will completely destroy your PC, trigger the end of the world and everything in-between. Most often, you have to scroll through pages and pages of “forwarding” E-mail headers (complete with the entire mailing list) before finally arriving at the actual warning. This type of activity has been around for years and is based on the principle of tying up bandwidth — consider the effect (in terms of computer and network resources) of thousands and thousands of people frantically sending these false warnings around the planet.

With respect to E-mail, I am not aware of ANY virus, worm or other “nasty critters” that can infect your PC by your merely READING an E-mail’s text. If you EXECUTE (i.e. RUN or START) an ATTACHED “infected” file or script then YES, your PC could become infected but JUST reading an E-mail? Nope!

So, how do you know if that warning is true? Simple. If the message has to do with READING an E-mail you can be pretty confident that it’s a hoax. But, to ease your mind, you can verify it by visiting one of the resources listed below. Once the hoax is confirmed, just send your friend a note about your findings and point him/her to one of the resources noted here. The next time it happens, he/she will be prepared and hopefully check things out BEFORE forwarding the false warning. Ultimately, this type of “bandwidth waste” (not to mention people’s time) should be significantly reduced as more and more folks become educated. The origin and history of some of these hoaxes are interesting if not plain humorous. Check out these “Virus Hoax” resources and get the real story:

http://vil.mcafee.com/hoax.asp
http://www.symantec.com/avcenter/hoax.html
http://HoaxBusters.ciac.org/

Well, that’s about it for this time. We’ll return to our “normally scheduled programming” next month and remember that all online resources and contacts appearing monthly in Pop’Comm are available at the Quick Links site: http://www.dobe.com/ql/.

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Tons Of Logs — Ten-Tec RX320 NEXT Month!

This month I have to start with an apology — all I can offer you is logs and letters this month. You may have read in the newspapers where there was this little thing called the “dot-com meltdown.” Well it was very real, and while I’m not directly connected with those industries whose financial bubble burst, I’m close enough to have felt the shock wave.

Making a far too long already story short. I had to spend more time than I wished making some major life decisions and after some shifts, changes, and re-inventing myself I’m now in a different line of work. Don’t worry, I’ll do just fine thanks.

However, I looked at the column for this month and saw just how much work was needed to make it really be worthwhile publishing and said — put it over until next time. Again, I’m sorry to have to do that to you, but I’d much rather do a good job than present you with something that was rushed and therefore compromised. I respect your time and intelligence too much to pass something off on you that was not worth your while reading.

So next month I will be doing a full and proper review of Ten Tec’s RX320 black box HF receiver and the best control software that I have used with it, which is Dextra’s Worldstation. Just to remind you, with this combination not only can you run the software on Microsoft Windows, Mac OS and LINX, but you can also control the RX320 over a computer network. Plus a new version of Worldstation also allows for the chaining of multiple RX320’s together for optimized scanning of select frequencies.

Trying to talk about all of that in the space of a column, and make sense of it so that you can use it properly, needs to be done with some care. So like I said, next month for the article.

Having said all that I’ve added extra logs in this month in order to give you something that is worthwhile reading. Yet again the reader’s logs are outstanding and it’s a real pleasure to put them together for you.

So lets jump right to the reader’s letters, then on to the logs.

Reader’s Logs

If you remember back in the August column there was a question by one of our readers about the station WLO. Well as always there were more than a few willing to help out with an answer. So here are some samples that should clear the matter up.

Joe,
The answer to reader Brian Limbach’s question in your August column is that he’s listening to the SITOR signal of WLO, Mobile, Alabama. The “chirping” tones are the digital signal, and the CW ID is an added benefit for identification.
Perry Crabill, W3HQX
Winchester, VA

Thanks Perry for that answer. Our next E-mail has both an answer and a new question. Check them both out, and see if you can come up with an answer for this new dilemma.

Dear Joe:
Probably by this time you have received 10,000 ID’s of WLO radio. So, here is 10001. What he was listening to was WLO Radio in Mobile, Alabama. It is a maritime shore station covering the Gulf of Mexico, the Caribbean, and points south. What he actually heard was WLO’s call tape identifying his station freq for ships to tune to for traffic. On that particular freq, WLO uses mostly SITOR A. If he tuned around that particular freq, he would hear several shore station in their call tapes.

A question of my own: I copy the SITOR A and B traffic with my decoder. But the PACTOR eludes me totally. I have a Hoka Code3 Prof but still can not get it to decode ship or shore station traffic. Any help from anyone reading this will be greatly appreciated.
Dick Bernard
Lake Placid, FL
U.S. Navy Spook retired

Finally, we get a report with a reference to a webpage.
Joe
Heard WLO on 13110 at 2300-15 with robot voice info, WX and TFC list broadcast this 4th of July. Refers to www.wlo-radio.com for full info. Like the Pop’Comm site column.
Col DX aka R.C Watts Louisville, KY

I also received an E-mail asking me for some advice and help.

Good friend Joe,
I want to start copying UTE’s. What would you suggest for
a receiver, terminal unit, and antenna? In the past I've copied CW by ear and RTTY with Model 15's, etc. Now I am 71 years old and don't have time to experiment anymore. Can you save me lots of time and give your opinion?

I am going to buy everything NEW and start all over. New receiver (or transceiver), term unit, antenna, etc.

Although my working life has been in the land mobile service, police and fire maintenance, I am retired and want to go back to playing radio, etc.

Enjoy your writings and look forward to the next Pop' Comm.

73, Bill

I'd like to answer this one as a group exercise. What do you think is a good starter set? I've got my opinion, and you may remember I did a column a while ago on one receiver (the Drake R8) that I thought was a good investment (still do). Do you have some experiences that might help? Send them along and I will publish them, space permitting. I'm sure Bill and a number of other people who want to get into radio monitoring, would appreciate it.

I have to say that this month's batch of logs is great! They range in frequency from down in the basement of VLF to the upper reaches of HF. Likewise the content is also fascinating, and I personally liked the log of Bill Gates Lear Jet (even he was not immune to the changes in the economy lately).

And now, the logs.

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October 2001 / POP'COMM / 69
6330: M21, Russian Air Defense, pseudo-TS, Russia, dirty CW w/a distinctive hum. 1235Z. TY

6417: The noisy slot machine, AM, 1100Z. TY

6445: The noisy slot machine, AM, 1110Z. TY

6496: UNID, FAPSI 1804 Crowd36 40bd On CFH freq (RP)

6496.4: CFH, CANFORCE Halifax 0908 FAX 120/576 w/surface analysis chart. (MADX)

6501: COMMSTA Chesapeake (MMN) with VOBRA maritime WX broadcast in USB at 0404Z. (CR)

6640: Hawaiian 98 discussing malfunction on #3 engine start valve and #2 fuel tank gauge with company in USB at 0507Z. (CR)

6676: Sydney VOLMET (VIN385) with aeronautical WX observations and forecasts in USB at 1130Z. (CR)

6697: HIGH TIDE (E-6 TACAMO) with “AKAC message” of 21 characters in USB at 0318Z. (CR)

6712: GHFS Andrews with 20-character EAM message broadcast in USB at 0523Z. (CR)

6715: GHFS McClellan with ALE initiated voice radio check via GHFS Puerto Rico in USB at 0352Z. (CR)

6739: GHFS Andrews with EAM (RCW6N) repeated four times in USB at 0444Z. (CR)

6739: GHFS Andrews with 22-character EAM message broadcast in USB at 0549Z. (CR)

6754: Canadian Forces Trenton Military (CHR) with aviation WX broadcast in USB at 0529Z. (CR)

6754: CHR, CANFORCE Trenton 1024 USB YL/EE w/aviation WX. (MADX)

6779: DHJ-59, (German Navy, Wilhelmshaven): 0042 USB w/DRHM (FGS WERRA TENDER A-514) in voice (EE/GE) and RTTY traffic. (RP)

6785: UNID station HMA, w/5FG’s in very rapid CW, using short “0”. 0939Z. TY

6912: GHFS Andrews 0202 YL/EE w/5FGs(xl)already in progress. (MADX)

6936.7: N4NLH, Baumholder, Germany 10.45 Packet Lithuanian NCS working various stations in CE2001 exercise (PT)

6990: The Russian Man numbers, Russian Intelligence, S06, already in progress. AM, 1231Z. TY

6992: VLBI, E10, Israeli Mossad, USB, 1145Z. TY

6995: LP, British M16, Cyprus, USB, 1200Z. / /9251/1154 kHz TY

6998: UNID, France?? 18.20 ITA2 50/400 Sends “CECI UNE EMISSION DE CALORIE DESTINEE AU RELAGE VOTRE RECEPTEUR” several times, then shuts down (PT)

7001: The Russian Man numbers, without ENIGMA code, AM, 1104Z. TY

7019: The Russian Man numbers, without ENIGMA code, AM, 1104Z. TY

7312: UNID stn Rping “CWS4” over and over, CW, 0928Z. TY

7332: FTJ, E10, Israeli Mossad, USB, 1130Z. TY

7337: LP, British M16, Cyprus, E03, USB, 1300Z/9251/12603 kHz. TY

7358: FTJ, Israeli Mossad, E10, USB, 1215Z. TY

7864: UNID stn 3SP w/V and CW marker. hand-sent CW. 0607Z. TY

7965.7: N3NRN, Baumberger, Germany 07.24 Packet Rumanian(?) net control station with CE2001 TFC working DIcsi and CI/CALLAO. Also mentions two other freqs, F31 - 7990 and F32 - 9960 (PT)

8043: RFFEFDA, L Hradiste 19.20 ARQ-E 72/400 BRIGAMECA UNE HRADISTE with TFC in FF to RFFGAC/REGINF and SOUGE via UFA cct. Corresponding UAF cct on 9212.1 or REBOURG, info to RFFGAC/REGINF UN SARLISSE with TFC in FF to RFFGAC/REGINF UN SARLISSE. (PT)

8043.5: OST40, OOSTENDE RADIO CW Chan free marker “OST” and/or TFC in Globedata. qsx 8352 MI (MADX)

8049.2: XSW, Kao-hsuing TAI 1100 CW WX EE for Taiwanese waters (ML)

8051: A9M, GW NOEBAIRWIN CW marker (Globe) “A9M.” TFC to ship in Globedata MF (MW)

8055: UCE, ARKANGELSK RADIO SITORA/100/170 Ch mariner with beamed “ky” in bursts. MM (DW)

8055.1: CTP PN LISBON RTTY//75/N/850 Marker “NAMS de CTP 04.08.12 MHz.” MM (DW)

8088: UNID. The noisy slot machine, AM, 1100Z. TY

8094: SAB, GW NOE GOETEBORG CW marker (Globe) “SAB.” Wkng ship in Globedata. MM (DW)

8095: CFT, GW NOE NEWFOUNDLAND CW marker (Globe) “CFT” MM (DW)

8325: UNID, SHIP UNID GLOBEDATA TFC to GW node Goeteborg/SAB AE (DW)

8375: Chinese female numbers. Chinese Intelligence, Beineg, China, V22, AM, 1300Z. TY

8419: WLO, MOBILE RADIO CW Chan free marker “WLO” MM (DW)

8420.5: HEC18, BERN RADIO CW Chan free marker “HEC” MM (DW)

8422.5: USU, MARIJOPOL RADIO CW Chan free marker “USU” MM (DW)

8425.5: HEC28, BERN RADIO CW Chan free marker “HEC” MM (DW)

8426: VCT, GW NOE NEWFOUNDLAND CW Chan free marker (Globe) “VCT” Wkng ship in Globedata. MM (DW)

8428: NNN, USCG PORTSMOUTH CW Chan free marker “NNN” MM (DW)


8431.5: UAT. MOSCOW RADIO CW Chan free marker “de UAT” MI (DW)

8434.5: SAB, GW NOE GOETEBORG CW Chan free marker (Globe) “SAB.” Wkng ship in Globedata. MM (DW)

8435: VCT, GW NOE NEWFOUNDLAND CW Chan free marker (Globe) “VCT” MM (DW)

8435.5: OST40, OOSTENDE RADIO CW Chan free marker “OST” MM (DW)

8439.2: PBC38, DNOGEE hLEVEL RTTY//75/N/850 MM (DW)

8453: FUG, FN LA REGINE RTTY//75/N/850 Marker “FAA(A) de FUG ty’s sg’s figs” MI (DW)

8464: LP, British M16, Cyprus, USB, 1240Z. TY

8495: SL1HF-M, Vladivostok, Russia, CW, 0702Z. TY

8503.9: NMG, USCG NEW ORLEANS FAX//120/576/N/800 Tropical sfc anal. 0630 schedule, too fuzzy for legibility. MI (DW)

16105.5: NBM, Swed Embassy Wash. DC 1153 MIL-STD 188-1141/A mod MIL-STD 188-1160a wkq S12: Swed Embassy Bogota. (MADX)

19131: ATLAS, DEA Comms Center Cedar Rapids 1504 USB wkg FLINT411: DEA unit. (MADX)

8506: XSY, Chi-lung rdo TAI 1030 CW WX EE for Taiwanese waters (ML)

8541: A9M, GW NOEBAIRWIN CW marker (Globe) “A9M.” TFC to ship in Globedata MF (MW)

8549: UCE, ARKANGELSK RADIO SITORA/100/170 Ch mariner with beamed “ky” in bursts. MM (DW)

8551.5: CTP PN LISBON RTTY//75/N/850 Marker “NAMS de CTP 04.08.12 MHz.” MM (DW)

8558: UNID. The noisy slot machine, AM, 1100Z. TY

8594: SAB, GW NOE GOETEBORG CW Chan free marker (Globe) “SAB” and/or TFC in Globedata. qsx 8352 MI (MADX)

8597: HEC, GW NOE BERN CW Chan free marker (Globe) “HEC” MM (DW)

8623.5: FYU, RN GIBRALTAR VFT/2 chan fleet broadcast vft on USB MM (DW)

8625.9: FYU, RN GIBRALTAR RTTY//75/R/200 Chan 1 in vft. CARB “08a 12a GYU” MI (DW)

8632: XSW, Kao-hsuing rdo TAI 1100 CW WX EE for Taiwanese waters (ML)

8635.5: DAO12, KIEL RADIO CW Chan free marker MI (DW)

8640.3: FYU, RN LONDON, VFT//4 chan fleet broadcast vft on USB MM (DW)

8641.5: SYN2, E10, Israeli Mossad, USB, 2145Z. TY

8641.8: FYU, RN LONDON, RTTY//75/N/340 CARB on vft chan3. Chans “2e 4b 6c 8a 22b” all active MI (DW)

8662: TAH, ISTANBUL RADIO, CW Marker “de TAH qsq 8 mhz ch 3 4 8 kHz” MI (DW)

8665: XSG, SHANGHAI RADIO, CW Marker “CQ de XSG pls up” MM (DW)

8670: IAR, ROME RADIO CW Marker “vvv de IAR K 4 8 12 16 22 MHz = we lsn 22 and reply on 17206.1 kh” MM (DW)
0800Z arrival WX at PAED followed by patch to Elmendorf Base Ops to provide a heads-up in USB at 0631Z. (CR)

11175: MUSTANG 90 with p/p attempt via GHFS Puerto Rico to DSN then asked to standby for high precedence traffic (CR)

11175: GHFS Offset with EAM for FILMORE (KYW2PV) broadcast multiple times then echoed by Hickam in USB at 0238Z. (CR)

11175: TOIL 38 with p/p via GHFS Puerto Rico to TOIL OPS (McGhaw Dispatch) adv of 11:30 PM local arrival in USB at 0303Z. (CR)

11175: DOOM 71 (B-52, Barksdale AFB) with p/p request via GHFS Elmendorf and aborts attempt, as operator seems to have great difficulty in understanding his request and call in USB at 0405Z. (CR)

11175: Japan Navy 78 calling MAINSAIL numerous times for HF radio check with no response in USB at 0035Z. (CR)

11175: SHADOW 38 with HF radio check via GHFS Ascension in USB at 0057Z. (CR)

11175: TURBO 81 (KC-135) calling MAINSAIL with no response, then is contacted by TURBO 75 for HF radio check and swap of position information in USB at 0136Z. (CR)

11175: REACH 9745 (C-17, tail #70045) with p/p via GHFS Thule to Charleston CP advising of need for immigration, agriculture, customs, and off-load requirements for 11 paax in USB at 0144Z. (CR)

11175: NAVY PD222 calling "any station" for HF radio check with no response in USB at 0258Z. (CR)

11175: HUNT 19 (C-141, tail #59408) with p/p via GHFS Hickam to McChord CP requesting permission to divert from original destination at Travis due to inoperable wing anti-ice system followed by p/p to McChord metro in USB at 0346Z. (CR)

11175: EARR 27 (B-52, 92nd Wing, Fairchild) with p/p via GHFS Andrews to Fairchild metro for 0435Z WX in USB at 0359Z. (CR)

11175: GUARD 0012 calling MacDill for HF radio check, then any station with no response in USB at 0422Z. Sounds like this flight was caught in a time warp considering MacDill hasn't been on the circuit for years! (CR)

11175: GHFS Andrews with EAM broadcast (AAA, time 25, authentication DC) then echoed by GHFS Hickam in USB at 0425Z. (CR)

11175: EPIC 16 (C-130) with p/p via GHFS Hickam to Hickam CP (AMC) advising inbound for 0700Z arrival with Gopher 01, Gopher 05 and Epic 17 (all C-130s) to follow and requesting parking for all aircraft in USB at 0534Z. (CR)

1214: Shadow 91, (UNIDENTIFIED), (0031) with TRENTON MILITARY in USB at 0631Z. (RP)

1214: REACH 60 (unclear on call) with ALE initiated HF radio check via GHFS Hickam in USB at 0331Z. (CR)

1213: CW6X with p/p via GHFS Hickam to unknown station followed by aero WX forecasts for KNIP (Jacksonville) and KCOF (Patric) provided by Trenton Military in USB at 0406Z. (CR)

1213: RESCUE 316 with p/p via Trenton Military to unknown ground station in which RESCUE 316 is instructed to conduct electronic above cloud search 10 miles either side of track in USB at 0344Z. (CR)

1213: SHADOW 38 with p/p via Trenton Military to unknown station in USB at 0437Z. (CR)

1214: CORRUGATE with three 28-character EAM strings broadcast multiple times during comms exercise in USB at 0155Z. (CR)

1214: RENCO (sounds like) calling SKYMASTER with message of one group, "NGY99" and requests acknowledgement from RACE CAR in USB at 0252Z. (CR)

1214: GHFS Andrews with 20 character EAM broadcast in USB at 0256Z. Andrews signed as Offset). (CR)

1214: GHFS Andrews with 28-character EAM broadcast in USB at 0322Z. (CR)

1215: GHFS Offset with ALE initiated voice HF radio check via GHFS Mcgillan in USB at 0518Z. (CR)

1218: Northwest 921 cleared by ATC to maintain 330 until 2353Z, then climb to 350 via San Francisco Radio in USB at 2348Z. (CR)

1218: NAVY YD763 (P-3C, VP-4) with position and altitude report (block 180 to 220) to San Francisco Radio in USB at 0306Z. (CR)

1218: REACH 8220 with position report and request for flight level 310 from 290 in USB at 0309Z. (CR)

11282: REACH 0450 advises San Francisco Radio they are enroute Travis via "SEATO 2 arrival" in USB at 0357Z. (CR)

11282: RULER 64 heavy (C-141) with position and altitude report to San Francisco Radio in USB at 0400Z. (CR)

11282: Air Canada 3133 (Vancouver to Honolulu) with SELCAL check (DQCP) via San Francisco Radio in USB at 0407Z. (CR)

11282: Flexjet 317 with position and altitude report to San Francisco Radio in USB at 0407Z. (CR)

11282: REACH 0450 advises San Francisco Radio they are enroute Travis via "SEATO 2 arrival" in USB at 0357Z. (CR)

11282: RULER 64 heavy (C-141) with position and altitude report to San Francisco Radio in USB at 0400Z. (CR)

11282: Air Canada 3133 (Vancouver to Honolulu) with SELCAL check (DQCP) via San Francisco Radio in USB at 0407Z. (CR)

11282: Flexjet 317 with position and altitude report to San Francisco Radio in USB at 0407Z. (CR)

11282: NAVY MS5030 with position and alt report to San Fran. Radio and is adv contact Los Angeles Center in USB at 2319Z. (CR)

11282: REACH 0220 reporting level at 340 to San Francisco Radio in USB at 2356Z. (CR)

11282: DANDA 39 (C-141, 62nd AW) with position and altitude report to San Francisco Radio in USB at 0003Z. (CR)

11282: REACH 6022 requests flight level 300 and is cleared by ATC via San Francisco Radio to new altitude in USB at 0507Z. (CR)

11282: REACH 7028 reports level at 370 to San Francisco Radio in USB at 0130Z. (CR)

11282: N138AV (Falcon 50) with position report to San Francisco Radio in USB at 0233Z. (CR)

11282: GUCCI 28 (KC-10, March ARB) with position report and request to climb from 280 to 310 via San Francisco Radio and is advised to contact Vancouver Center at 135.200 in USB at 0325Z. (CR)

11282: TWA 2 (Honolulu to St. Louis) with SELCAL check and is advised by San Francisco Radio to switch to 5.574 with secondary of 9.843 in USB at 0407Z. (CR)

11306: American 991 enroute Buenos Aires with check-in and SELCAL check (ABGH) via Lima Radio and is advised that secondary will be 8.885 in USB at 0449Z. (CR)

11306: American 963 with neg SELCAL check (AJKQ) and req for list of check-in points via Lima Radio in USB at 0320Z. (CR)

11306: American 900 with position report and SELCAL check via Lima Radio in USB at 0437Z. (CR)

1134: United 34 with p/p via San Francisco Radio to United Dispatch and Maintenance regarding airspeed indicator malfunction and discussion of possible solutions in USB at 0220Z. (CR)

1134: SUMO 92 with altitude and position report (33.42N, 170E) via San Francisco Radio in USB at 1112Z. (CR)

1134: New Zealand 36 with position and altitude report to San Francisco Radio in USB at 1246Z. (CR)

1134: Pacific 303 with position and altitude report to San Francisco Radio in USB at 1324Z. (CR)

1134: Qantas 50 (Nagoya to Cairns) with position report and SELCAL check (DKFM) check via San Francisco Radio in USB at 1451Z. (CR)

1134: Japan Air 88 (Japan to Honolulu) with position report (34N, 170E) via San Francisco Radio in USB at 1505Z. (CR)

1134: Philippine 103 (Honolulu to Manila?) cleared by ATC to climb to 360 via San Francisco Radio in USB at 1506Z. (CR)

1134: Korean Air 051 (Japan to Honolulu) calling San Francisco then asked to switch to 6.532 for HF radio check by San Francisco Radio in USB at 1509Z. (CR)

1134: SWORD 03 reporting level at 290 to San Francisco Radio in USB at 1519Z. (CR)

1134: Qantas 50 cleared by ATC to deviate 30 nautical miles left of track due WX via San Francisco Radio in USB at 1521Z. (CR)

1134: Japan Navy Alpha flight cleared to flight level 230 via San Francisco Radio then advises level at 230 in USB at 1431Z. (CR)

1134: Japan Navy Bravo flight requesting flight level 230, then cleared by San Francisco Radio to 230 in USB at 1441Z. (CR)

1137: Bangkok VOLMET (THA) with automated aero WX and forecast in USB at 1142Z. (CR)
13533: EZI, E10 Israeli Mossad, USB, 2130Z/11545kHz. TY

15050.5: 2KLF, AUCKLAND MET FAX//120/576/N/800 Weak
noisy surface prog MF (DW)

13750: The New Star Radio, Taiwan, AM, 1200Z. TY

13900: BMF, TAIPEI MET FAX//120/576/N/800 Fisheries feast in
Chinese script — characters blurred. 2135z svc prog. MF (DW)

13908: TCS, E05, AM, 1200Z//15732kHz. TY

13921: CIO2, E10. Israeli Mossad, USB, 20062Z/12736kHz. TY

13944: UNID, CIS Mil 124481 81/2100 (RH2)

13951.5: HBD20, MFA Berne 0530 ARQ SLG msg to unkwn, 0540
HBD20/4 s/ofl (ML)

13951.5: HBD46, Swiss Embassy, Havana 1105 SITOR-A 100/170
w/5LGs in prog. Msg ended at 1222, (over 3000 groups!) (MADX)

13961.7: RFVIPP, FF Mayotte (7 QTH) 0450 ARQ-E3 100/400 non
protege EXERCICE YLANG msg to RFVI Le Port, cct MBI (ML)

14353.5: S12, Swedish Embassy, Bogota 1124 MIL-STD 188-141A/
mod MIL-STD 188-110A wkg UNID. (MADX)

14358: UNID, E, Atlantic Yacht Net 2231 USB PP/EE chatter. Lots
of ref's to WX at various locations in the Eastern Atlantic including
the Azores. Numerous yachts checking in to the "net." (MADX)

14366.9: BAF8, BEIJING MET FAX//120/576/N/800 Weak/hazy
chart MF (RH2)

14366.9: BAF8, Beijing Meote 0847 FAX 120/576 Weak sigs — lines
feint!(RH2)

14383: NNOTWT (MARS, Ciria FL): 0001 USB w/morale pp
w/NNONCMC (USN vessel). (RP)

14487: LP, British M16, Cyprus, USB, 12002//11545//15682kHz. TY

14487.2: RFFTB, Paris. France 18.40 ARQ-E3 200/400 5-Ig TFC to
RFFVAEA, Dahran, via FDX cct (PT)

14718.3: RFHI, French Forces Noumea 1138 ARQ-E3 100/400/wtwo
5LG msg ns on ckt [HIJ]. (MADX)

14719: OST53, Oosiende Radio 1041 SITOR-B 100/170 w/UNID sta-
rffvhea, 2000z changed to fec for

14750: The English Man numbers, E06, Russian Intelligence, Russia,

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Next Month

Next month I promise to be back on track with my writing and will deliver to you the report on the Ten-Tec RX320 and the Dxta Worldstation control software. Like I was saying earlier — I want to make certain that you get the full and complete picture on how this little black box of a radio works. Believe me this type of radio technology is going to be changing the way a lot of us are going to be doing our ute monitoring. We are going to be seeing a bit of history being made here, and I want you to understand exactly why this is so.

I'm also going to be reporting on some additional software packages that will help make your monitoring experiences more interesting and enjoyable. More and more your computer is going to become the center of your monitoring station. So much so that I predict that the radio as we know it will disappear into the background in a few years and at the same time people will be enjoying radio monitoring more than ever before.

So until that time, please keep those logs coming in. I'm both impressed and pleased with the cooperation that the readers have given to me in helping to make the column a success. Again, thank you all very much.

And as always, may your ute monitoring sessions be enjoyable, rewarding, and most of all fun!
Each month, we select representative reader letters for our "Our Readers Speak Out" column. We reserve the right to condense lengthy letters for space reasons and to edit to conform to style. All letters submitted must be signed and show a return mailing address or valid e-mail address. Upon request, we will withhold a sender's name if the letter is used in "Our Readers Speak Out." Address letters to: Harold Ort, N2ZRL, SSB-596, Editor, Popular Communications, 25 Newbridge Road, Hicksville, NY 11801-2909, or send e-mail via the Internet to <popularcom@aol.com>.

Canadian Monitoring

Dear Editor:

I heard you recently on the Art Bell show. You were right when you said that Canadian scanners have cell phone coverage. I have that on my ICOM R3 video scanner. I was outside in front of this store that has a wireless camera with sound. I tuned the R3 to 926.8375 MHz and received both video and sound. Listening to sound was like listening to a room bug. I overheard the store workers talking about me, but I didn't dare tell them I was on their frequency. I also have a Grundig Satellit 800 I bought mainly for DXing. To filter out adjacent channel interference, which may be as little as 10 kHz on either side of the desired frequency, I use the AM synchronous detector, AM synch; the USB or AM synch LSB for DXing. With the Grundig I've received WWL 870, New Orleans with local interference on 860. This is why I use AM sync det mode. I received WCCO, 830, Minneapolis with local interference on 820, and CBC, Winnipeg, Manitoba on 990 with interference from CFRB on 1010.

I also listen to subcarrier broadcasts carried on the FM band. I have an SCA decoder by Ramsey. I modified a Sony ICF 18 for SCA output. In my area the SCA broadcasts are in foreign languages. They seem to originate from overseas. I heard a callsign that sounded like "Radio Defuga." Do you know if these SCA signals are taken off the Internet or satellites? Regards,
John, Ontario

Dear John,

Anything is possible today, but what you're hearing is originating from a nearby FM station, likely on 67 kHz and the foreign language is targeted to a nearby ethnic community. Common uses of SCA included the so-called "elevator music" and other material broadcast as a subcarrier to the station's main FM signal. Please know that in the U.S. monitoring SCA signals not intended for you is illegal.

Bombs Away: Heisseluft Strikes Again

Dear Editor:

I am compelled to respond to Mr. Bert C. Craig, Jr.'s letter concerning the definition of "is illegal" in reference to freebanding just being against the FCC rules and regulations. Where in the world did the justification for freebanding come from and fall under the statement, "as the FCC has no voted representation" it cannot be illegal? I realize he was just making a point, however, considering the confusion with the definition of "is" some freebanders might be disoriented and not read between the lines of his letter. I believe most freebanders would consider their actions within their "rights" as long as the communications conducted on the freeband was between consenting adults. I believe Mr. Craig, Jr. should do some research concerning the use of a transmitter to conduct communication within the United States. I'm sure he will find that using any form of wireless communication requires a license and this license is a privilege, not a right.

The government has the legal duty to prosecute those individuals who are not licensed. Mr. Craig, Jr.'s adventures with freebanding might make a good segment on the TV show, Survivor. Heisseluft's adventures with freebanding are coming to an end. Attached is an article, "New HF-Angle, Single Site Emission-Locator (HASSEL) Stations Ready To Cleanse Ham Bands," Heisseluft, CQ, April 2001, pp. 28-32. This recent publication concerns the new approach to cleaning up the ham bands and the freeband. I hope the freeband operators will take the time to read this very interesting approach to locating illegal radio transmissions and the references at the end of the article.

So a word of warning to your freeband readers—check the options the FCC has if a person is found guilty of illegal operations in the radio spectrum by an unlicensed station. I believe the freebander could lose their equipment, $50,000 fine and/or five years in jail. I'm sure the government won't put a freebander in jail; however, the $50,000 fine might help the FCC with their shrinking budget. Hopefully all freebanders have $50,000 set aside for just this type of emergency, or are ready to sell their house for the $50,000 fine.

Freebanders beware—you have been alerted and when the folks come knocking on your door, tell them that your freebanding "is" not illegal; it "is" just against the FCC's rules and regulations. I'm sure they and the judge will enjoy your sense of humor.

Henry D. Dobson, Ph. D., K3AKZ
Danville, PA

Dear Mr. Dobson:

I sure hope you're sitting down for this one. Yours is the type of letter that makes my day. And Heaven knows, as I'm writing this, it's warm and muggy, my mother-in-law is coming up for a visit soon, and I have a summer bash, so I need all the laughs I can get.

The article in CQ you refer to was an April Fool's spoof. Oops, Henry, looks like we caught you with your thinking cap in the closet! Did you read the author's name? Professor Emil Heisseluft. Hah. Hmmm. The references are all phony as well. Tassel, Hassel, single-site emission-locators and all the rest are all bogus. How about reference No. 9, "Heisseluft, E., 'Ionospheric Propagation Possible On Mars,' CQ, April 1994, and the fact that all the other supposed references were from April issues of the magazine? I sure hope whoever reviewed your thesis had their glasses on and clean!

Your basic comments about freebanding are correct, especially about some folks' idiotic interpretations of the law; illegal is illegal regardless of what an operator chooses to call it, and incursions into 10-meters is also illegal and believe me, Uncle Charlie is indeed making major headway in cleaning up the bands. The FCC has a lot of high-tech gizmos and is working in concert with many people, but Mr. Emil Heisseluft isn't one of them.

Also, just FYI, there are still radio services that don't require a license, CB, FRS, MURS, those 49 MHz kiddey walkie-talkies to name a handful. Thanks again, Henry for the laughs—although we do get the point and hear you loud and clear!
loose connection radio communications humor

Bill Just Keeps Getting Looser

A long time ago, in a galaxy not so far away, I was stopped by a law enforcement officer who explained to me that it was a violation of the motor vehicle code in the Commonwealth of Pennsylvania to operate a public address system from a motor vehicle without a permit. He also told me that publicly calling someone a jackass and questioning the validity of his driver's license might get me assaulted, sued for defamation of character AND a nasty letter from the makers of Crackergate(TM) stating that they do not, and have never, offered driver's licenses as a premium.

This was no surprise to me. I knew that a person can't drive around blasting speech or music for the world to hear, interrupting their peace and quiet, whether they're in a car or at home. Somehow, that worm has turned now. We have "kickers." "Thump-speakers." Incredibly powerful bass amplifiers and reinforced-concrete speakers to withstand them, so that gentlemen of, shall I say, diminished masculinity can demonstrate their virility to like-minded, er, gentlemen by playing really bad music really loudly. It's a sort-of "wet-T-shirt" contest for males.

It seems (and I BEG to be corrected by any law enforcement official) that this is completely within the framework of the law, and that the rights of these infrahumans to vibrate anything within a quarter-mile shall not be violated by anyone who would rather not be so vibrated.

I once had a 100w CW (Morse code) transmitter - fully licensed - within about 10 feet of a 15" speaker. The speaker was mounted in an enclosure, and was not connected to anything other than 6" of wire and a 1/4" phone jack. I was surprised (jumped out of my chair, to be sure) when I found that keying the transmitter on the 15-meter ham band caused the speaker to oscillate LOUDLY - almost painfully - while nothing was connected to it.

Because I value my own right to quiet more than the rights of impotent teenagers to thump their electronic virility for their friends, I wondered how I might apply this new found technology effectively to the benefit of myself and other like-minded people. As some of you know, a very fine - almost invisible - wire can transmit RF just about as effectively as a fat, visible wire (no mail, please - I know there's more to it), and a transmitter can be fooled into thinking that a random-length piece of wire - even one laying on the ground - is resonant, if you use a hefty antenna tuner. While you still have a lousy radiator, you have a lousy radiator, which is taking all the signal your transmitter can put out. If you were to lay that radiator on the ground, say, underneath a car, the signal reaching that car would be "pretty strong," but of course, you'd risk giving someone an RF burn if they came in contact with the wire.

"The crew paved over it without ever noticing it, again confirming my belief in a power greater than mankind."

Before I arrived at my present level of effluence, I lived near a parking lot where many people would play their car stereos loudly while standing around the cars and discussing current events, the world economy, and beer. I had the good fortune one Saturday morning to observe the entire parking lot devoid of vehicles, and being swept in preparation for repaving. While the paver's attention was diverted by a young lady attempting to acquire a tan, I laid some parking-lot-colored insulated wire along the entire line where the music lovers parked, leaving a free end wandering across my lawn. The crew paved over it without ever noticing it, again confirming my belief in a power greater than mankind.

As a licensed radio amateur, sworn to uphold truth, justice, and the American way, I would never even hint at testing my 15M transmitter where it might do interference to consumer electronic entertainment devices. But if I were to do such a vile thing, it sure did--er, would--make those speakers howl like hungry dogs by a padlocked dumpster.

I'm considering subsidizing the repaving of a shopping center near where I live (sound carries a mile easily in the dense, humid air in Cowfield County). I haven't suggested the new "wire reinforced" blacktop, as it's pretty-much cutting-edge technology and wouldn't be readily understood, but I thought it might be a great place to run occasional tests of my new 15M CW repeater.

Perhaps a nationwide network of 15M operators using "invisible-fence" (buried wire) as transmitting antennas would calm the thumping waters. Maybe just lots of 15M mobile activity in traffic. Nothing malicious, mind you. Ham radio is an enjoyable hobby - an enjoyable pastime, meant to soothe jangled nerves and keep a person from carrying a bazooka in the car, for instance. Or perhaps just a bit of grey-matter broken loose in some state and local legislators. a few Sound-Pressure-Level-Meters given to law enforcement agencies. Might even enable them in their roles as "Peace Officers."

Just my humble opinion.

Editor's note: Bill writes to us from his cell, which he has asked to be lined with lead, to shield him from alien rays, and "the voices," which he claims sound a lot like the rapper, "Reeses Peces." You can write to Bill, or send him packages (nothing sharp) care of PopComm. No packages via E-mail, please.
Tuning In (from page 4)

and fill the Information Highway with more orange cones and barrels than you can imagine.

Members of the House Judiciary Committee, especially Chairman Sensenbrenner, Ranking Member Conyers and Representative Cannon are congratulated for their negative referral of Tauzin's bill. It now remains to be seen if Billy and his fat cats in D.C. are smart enough to actually read the text and retreat from such anti-American antics now, and in the future. Congress must totally reject the Tauzin-Dingell bill, which would permit the Regional Bell Operating Companies (RBOCs) to extend their phone monopolies to our Internet, and instead get serious about enforcement of the existing Telecommunications Act of 1996. The close vote in the Judiciary signals me that still, all too many representatives don't have a clear understanding of what's right for America and small business.

Rep. Billy Tauzin should resign from Congress for having the arrogance, insensitivity, and supreme stupidity to pen H.R. 1542. Do you think he's proudly telling his constituents in Louisiana that his bill ended up in the toilet at the Judiciary? I doubt it, but if he'd like someone to write that news release, please call me anytime.

Representative John D. Dingell (Mich.), the bill's co-sponsor, is no better, and should be brought to task before the American people, not merely laughed at behind closed doors on Capitol Hill. Certainly neither will happen in my lifetime, as I'm sure Tauzin is already moving on to even more unbelievable schemes designed solely to help America's corporate giants swallow up everything previous generations have worked so hard to build in keeping with competition and fairness.

As Mr. Nadler said in his testimony, "Well, we're going into a digital era... and if Tauzin-Dingell passes without this amendment, what you're going to end up with is the RBOCs, the baby Bells, having carte blanche to compete in everything without opening up — on everything nationally — without opening up anything locally, and that's a situation for going very swiftly, a very limited cartel..."

If the thought of a weakened America, because of less good old-fashioned competition, a cornerstone of our great country, makes you angry, let Tauzin and Dingell know. Tauzin's phone number is 202-225-4031. To my knowledge he can't be reached online through the official House site unless you're a proud Tauzin constituent. But you can say hello the old-fashioned way by writing to him at 2123 Rayburn House Office Building, Washington, DC 20515.

Dingell's direct number is 202-225-4071 and his E-mail address is public.dingell@mail.house.gov. Tell both of them you're mad as hell and you're tired of the bureaucratic weasel dance and word-smithing that's making you reach for the Pepto. Please help end that needless gurgling in my stomach and tell them both to go fishing.
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<table>
<thead>
<tr>
<th>Advertiser</th>
<th>Page Number</th>
<th>Website Address</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADI/Premier Communications</td>
<td>27</td>
<td><a href="http://www.adi-radio.com">www.adi-radio.com</a></td>
</tr>
<tr>
<td>AOR USA, Inc.</td>
<td>15</td>
<td><a href="http://www.aorusa.com">www.aorusa.com</a></td>
</tr>
<tr>
<td>Antenna Supermarket</td>
<td>55</td>
<td></td>
</tr>
<tr>
<td>Antique Electronic Supply</td>
<td>22</td>
<td><a href="http://www.tubesandmore.com">www.tubesandmore.com</a></td>
</tr>
<tr>
<td>Antique Radio Classified</td>
<td>23</td>
<td><a href="http://www.antiqueradio.com">www.antiqueradio.com</a></td>
</tr>
<tr>
<td>Atomic Time, Inc.</td>
<td>23</td>
<td><a href="http://www.atomictime.com">www.atomictime.com</a></td>
</tr>
<tr>
<td>Bill’s CB &amp; 2-Way Radio Service</td>
<td>79</td>
<td><a href="http://www.bills2way.com">www.bills2way.com</a></td>
</tr>
<tr>
<td>CQ Merchandise</td>
<td>25</td>
<td><a href="http://www.cq-amateur-radio.com">www.cq-amateur-radio.com</a></td>
</tr>
<tr>
<td>C. Crane Company</td>
<td>80, Cov. III</td>
<td><a href="http://www.ccrane.com">www.ccrane.com</a></td>
</tr>
<tr>
<td>C &amp; S Sales, Inc.</td>
<td>29</td>
<td><a href="http://www.cs-sales.com">www.cs-sales.com</a></td>
</tr>
<tr>
<td>CRB Research</td>
<td>28, 79</td>
<td><a href="http://www.crbbooks.com">www.crbbooks.com</a></td>
</tr>
<tr>
<td>Communications Electronics</td>
<td>21</td>
<td><a href="http://www.usascan.com">www.usascan.com</a></td>
</tr>
<tr>
<td>Computer Aided Technologies</td>
<td>43</td>
<td><a href="http://www.scancat.com">www.scancat.com</a></td>
</tr>
<tr>
<td>Cubex Co., Inc.</td>
<td>28</td>
<td><a href="http://www.cubex.com">www.cubex.com</a></td>
</tr>
<tr>
<td>Cutting Edge Enterprises</td>
<td>28</td>
<td><a href="http://www.powerportstore.com">www.powerportstore.com</a></td>
</tr>
<tr>
<td>D. W. Electrochemicals Ltd.</td>
<td>55</td>
<td><a href="http://www.stabilant.com">www.stabilant.com</a></td>
</tr>
<tr>
<td>Drake, R.L. Company</td>
<td>17</td>
<td><a href="http://www.rldrake.com">www.rldrake.com</a></td>
</tr>
<tr>
<td>Everhardt Antennas</td>
<td>49</td>
<td><a href="http://www.everhardtantennas.com">www.everhardtantennas.com</a></td>
</tr>
<tr>
<td>GRUNDIG</td>
<td>10, 11</td>
<td><a href="http://www.grundigradio.com">www.grundigradio.com</a></td>
</tr>
<tr>
<td>Hollins Radio Data</td>
<td>9</td>
<td><a href="http://www.policecall.com">www.policecall.com</a></td>
</tr>
<tr>
<td>ICOM America, Inc.</td>
<td>5</td>
<td><a href="http://www.icomamerica.com">www.icomamerica.com</a></td>
</tr>
<tr>
<td>Lee Electronics Company</td>
<td>29</td>
<td><a href="http://www.LeesElect.com">www.LeesElect.com</a></td>
</tr>
<tr>
<td>Lentini Communications, Inc.</td>
<td>1</td>
<td><a href="http://www.lentinicommm.com">www.lentinicommm.com</a></td>
</tr>
<tr>
<td>Lextronix, Inc.</td>
<td>10, 11</td>
<td><a href="http://www.grundigradio.com">www.grundigradio.com</a></td>
</tr>
<tr>
<td>MACO Mfg. Div/Majestic Comm.</td>
<td>27</td>
<td><a href="http://www.majestic-comm/mac0">www.majestic-comm/mac0</a></td>
</tr>
<tr>
<td>MFJ Enterprises, Inc.</td>
<td>39</td>
<td><a href="http://www.mfjenterprises.com">www.mfjenterprises.com</a></td>
</tr>
<tr>
<td>Mobile DXer, The</td>
<td>8</td>
<td><a href="http://www.cq-amateur-radio.com">www.cq-amateur-radio.com</a></td>
</tr>
<tr>
<td>Monitoring Times</td>
<td>59</td>
<td><a href="http://www.grove-ent.com">www.grove-ent.com</a></td>
</tr>
<tr>
<td>Mouser Electronics</td>
<td>19</td>
<td><a href="http://www.mouser.com">www.mouser.com</a></td>
</tr>
<tr>
<td>Old Stone Inc.</td>
<td>53</td>
<td><a href="http://www.antennamast.com">www.antennamast.com</a></td>
</tr>
<tr>
<td>Optoelectronics, Inc.</td>
<td>Cov. IV</td>
<td><a href="http://www.optoelectronics.com">www.optoelectronics.com</a></td>
</tr>
<tr>
<td>Phillips-Tech Electronics</td>
<td>28</td>
<td><a href="http://www.phillips-tech.com">www.phillips-tech.com</a></td>
</tr>
<tr>
<td>REACT International, Inc.</td>
<td>28</td>
<td><a href="http://www.reactintl.org">www.reactintl.org</a></td>
</tr>
<tr>
<td>Radioworld, Inc.</td>
<td>19</td>
<td><a href="http://www.radioworld.ca">www.radioworld.ca</a></td>
</tr>
<tr>
<td>Ranger Communications, Inc.</td>
<td>31</td>
<td><a href="http://www.rangerusa.com/PC">www.rangerusa.com/PC</a></td>
</tr>
<tr>
<td>Signal Engineering</td>
<td>29</td>
<td><a href="http://www.signalengineering.com">www.signalengineering.com</a></td>
</tr>
<tr>
<td>Shortwave Store, The</td>
<td>27</td>
<td><a href="http://www.usa.shortwavestore.com">www.usa.shortwavestore.com</a></td>
</tr>
<tr>
<td>Universal Radio, Inc.</td>
<td>3</td>
<td><a href="http://www.universal-radio.com">www.universal-radio.com</a></td>
</tr>
<tr>
<td>Viking Systems International</td>
<td>65</td>
<td><a href="http://www.vikingint.com">www.vikingint.com</a></td>
</tr>
<tr>
<td>Yaesu USA</td>
<td>Cov. II</td>
<td><a href="http://www.yaesu.com">www.yaesu.com</a></td>
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