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POPULAR COMMUNICATIONS

OCTOBER 2001

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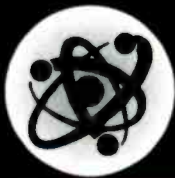
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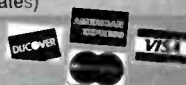
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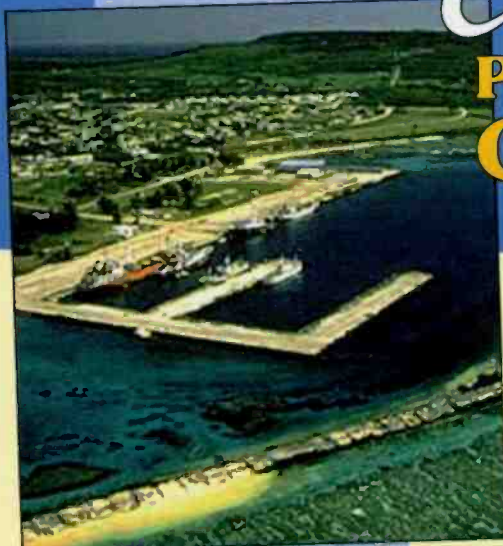


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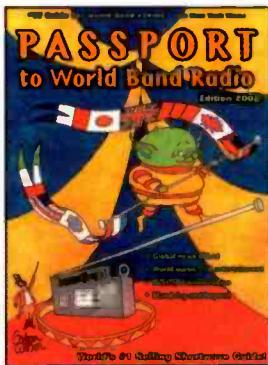
On The Cover

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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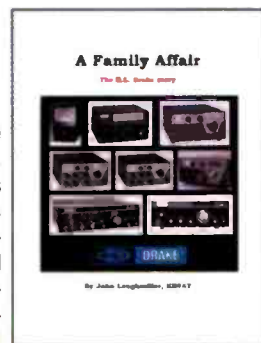


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Tauzin's Dingell Shrivels

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

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- Passport to World Band Radio, 1998

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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 Mariana 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),



A look at Tinian's beautiful San Jose Village.

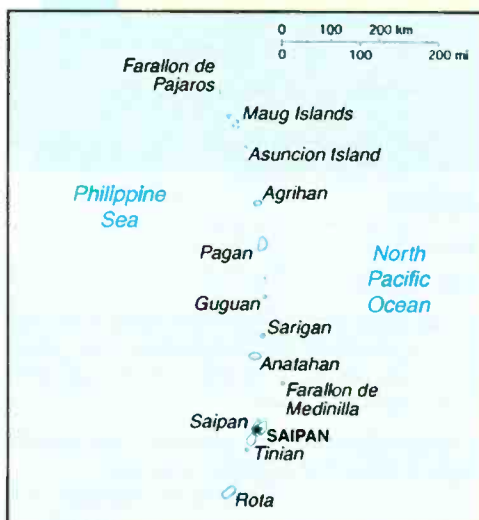
WORLDNET Television, and Radio and TV Marti. Under the authority of the BBG, the International Broadcasting Bureau (IBB) oversees the broadcasters, which are funded through Congressional appropriations, i.e., VOA, WORLDNET, and Radio and TV Marti. RFE/RL and RFA are private corporations, which are funded 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



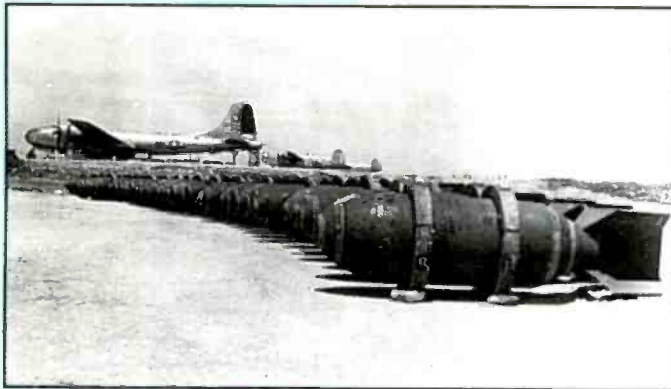
A map showing Tinian and Saipan in the Northern Marianas, courtesy of the Marianas Visitors Authority on Saipan.

TIN-01, TIN-02 and TIN-03 BROADCAST SCHEDULE EFFECTIVE 21 JANUARY 2001 with END of OM 009

TIN-01, TIN-02 and TIN-03 BROADCAST SCHEDULE EFFECTIVE 21 JANUARY 2001 with END of OM 009

TIN-01				TIN-02				TIN-03						
PROGRAM TIME	FREQ.	ANT./SLEW	SLEW POS.	LOCAL TIME	PROGRAM TIME	FREQ.	ANT./SLEW	SLEW POS.	LOCAL TIME	PROGRAM TIME	FREQ.	ANT./SLEW	SLEW POS.	LANGUAGE
0000 UTC	16186	296H/279	-16	10AM	0000 UTC	18648	296H/279	-16	10AM	0000 UTC	18406	313H/297	-16	RFA 4 (LAOT)
0100 UTC				11AM	0100 UTC	16226	296M/296	0	11AM	0100 UTC	18406	313H/297	-16	RFA 3 (UYGH)
0200 UTC				NOON	0200 UTC				NOON	0200 UTC				
0300 UTC	13870	296H/303	+8	1PM	0300 UTC	13780	268H/304	+24	1PM	0300 UTC	18160	333H/317	-18	RFA 1 (MAND)
0400 UTC				2PM	0400 UTC				2PM	0400 UTC				
0600 UTC				3PM	0600 UTC				3PM	0600 UTC				
0600 UTC				4PM	0600 UTC				4PM	0600 UTC				
0700 UTC				6PM	0700 UTC	13616	313H/313	0	6PM	0700 UTC				
0800 UTC	15160	296M/296	0	6PM	0800 UTC			+12	6PM	0800 UTC	11986	333H/326	-8	NET P (ENGL)
0900 UTC				7PM	0900 UTC				7PM	0900 UTC				
1000 UTC				8PM	1000 UTC			-8	8PM	1000 UTC	16260	333H/317	-16	
1100 UTC				9PM	1100 UTC	9776	296M/279	-16	9PM	1100 UTC				
1200 UTC				10PM	1200 UTC	11966	296M/303	+8	10PM	1200 UTC				
1300 UTC	16260	296H/280	0	11PM	1300 UTC	11796	296M/279	-16	11PM	1300 UTC	7236	333H/326	-8	NET Y (KORE)
1400 UTC	16260	296H/287	-8	12PM	1400 UTC	16470	296M/279	-16	12PM	1400 UTC	11760	268H/272	-8	RFA 3 (VIE T)
1600 UTC	13736	296H/296	0	1AM	1600 UTC				1AM	1600 UTC	13690	333H/309	-24	RFA 1 (MAND)
1800 UTC				2AM	1800 UTC	11860	296M/286	0	2AM	1800 UTC				
1700 UTC				3AM	1700 UTC				3AM	1700 UTC				
1800 UTC				4AM	1800 UTC	11790			4AM	1800 UTC				
1900 UTC				6AM	1900 UTC				6AM	1900 UTC				
2000 UTC				6AM	2000 UTC				6AM	2000 UTC	9886	313L/313	0	
2100 UTC				7AM	2100 UTC	11740	296H/288	+8	7AM	2100 UTC				
2200 UTC	13746	296H/279	-16	8AM	2200 UTC				8AM	2200 UTC				
2300 UTC				9AM	2300 UTC	16430	296M/319	+24	9AM	2300 UTC				
2400 UTC				10AM	2400 UTC				10AM	2400 UTC				

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.



The way it was, circa 1945 when editor Harold Ort's father, a crew chief on a B-29, was stationed on Tinian.

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 bay antennas bearing NNW+, since this provides the highest gain and shortest path.

Tinian Curtain Antenna Configurations

Bearing	Bands	Height	Width
NW	high, low	4 dipoles	2 dipoles
NW+	high, low	4	4
NNW-	high, low	6	4
NNW-	mid	4	4
NNW	high, low	4	4
NNW+	high, low	6	4

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 quar-

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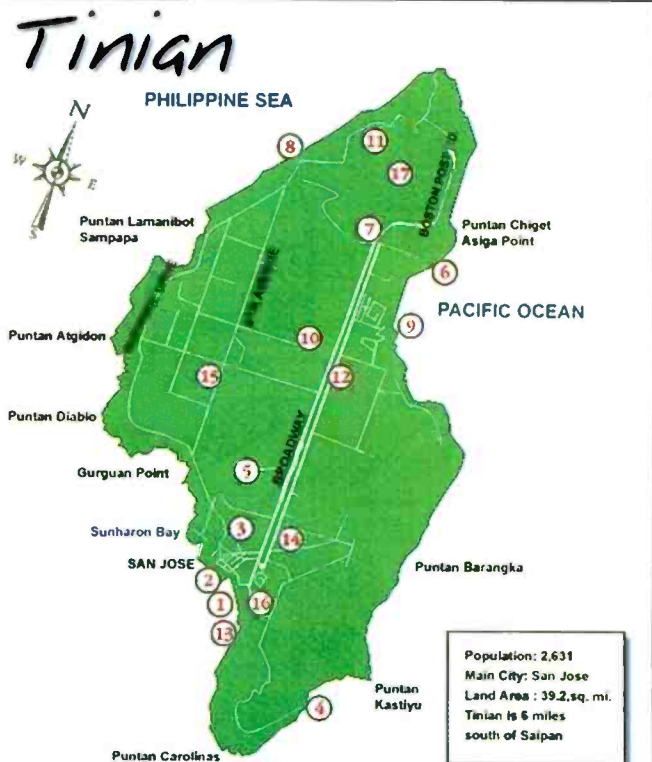
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- | | |
|--------------------------------------|----------------------------------|
| 1. Taga Beach | 9. Unai Dankulu Beach |
| 2. House of Taga | 10. Mount Lasso |
| 3. Korean Monument | 11. Atomic bomb pit |
| 4. Suicide Cliff | 12. Radio Communication building |
| 5. Airport | 13. Tachogna Beach Park |
| 6. The Blowhole | 14. Marianas Visitors Authority |
| 7. Shinto Shrine — American Memorial | 15. SeaBee Monument |
| 8. Invasion Beach White (Unai Chulu) | 16. Tinian Hotel & Casino |
| | 17. Old North Field |

Tinian landmarks.

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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.

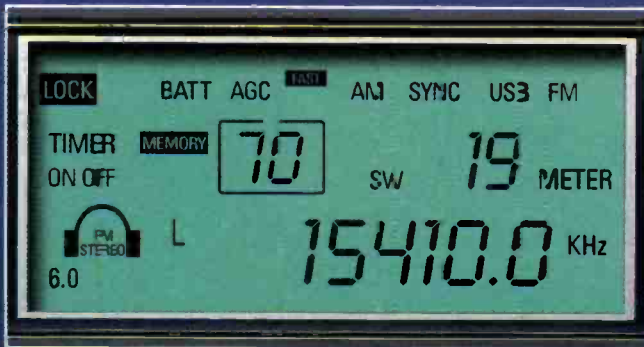
Grant Bingeman is a Principal Engineer at Continental Electronics, and a registered professional engineer in the state of Texas. His amateur Extra call sign is KM5KG. He developed and implemented the antenna remote control software and hardware at Tinian. His colleague, Mark Wezensky, developed the switch 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.

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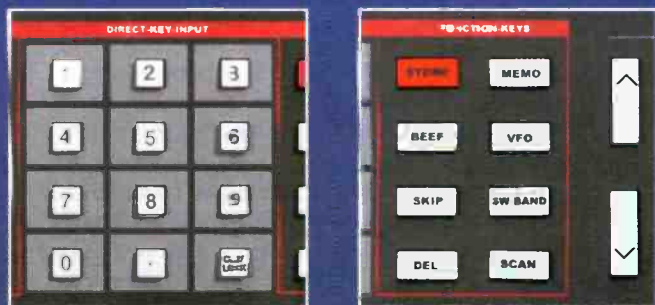
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A Trip Through H.A.A.R.P. Reveals Some Secrets

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 signals coming in from distant stations up to 1,500 miles away are relatively short-lived. Just like on low band, they will remain constant for a period of time, go into phase distortion, and then come back nice and strong. But for every hour that Sporadic-E may be bringing in reception on low band, it could only last for maybe 5 minutes on high band.

On UHF from 440 MHz-470 MHz, there has only been a few isolated reports of momentary Sporadic-E reception. Some radio experts feel there is absolutely no chance of Sporadic-E reception up this high in frequency, but several ham operators claim they have carried on some brief conversations in CW during periods of intense Sporadic-E conditions on the lower frequencies, carrying their communications as high as 440 MHz.

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.

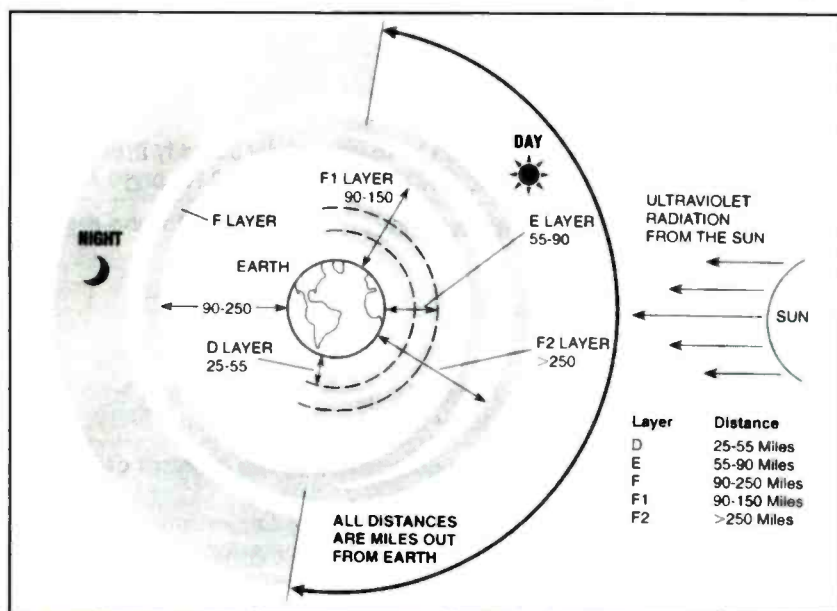
H.A.A.R.P. E-Cloud Observations.

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

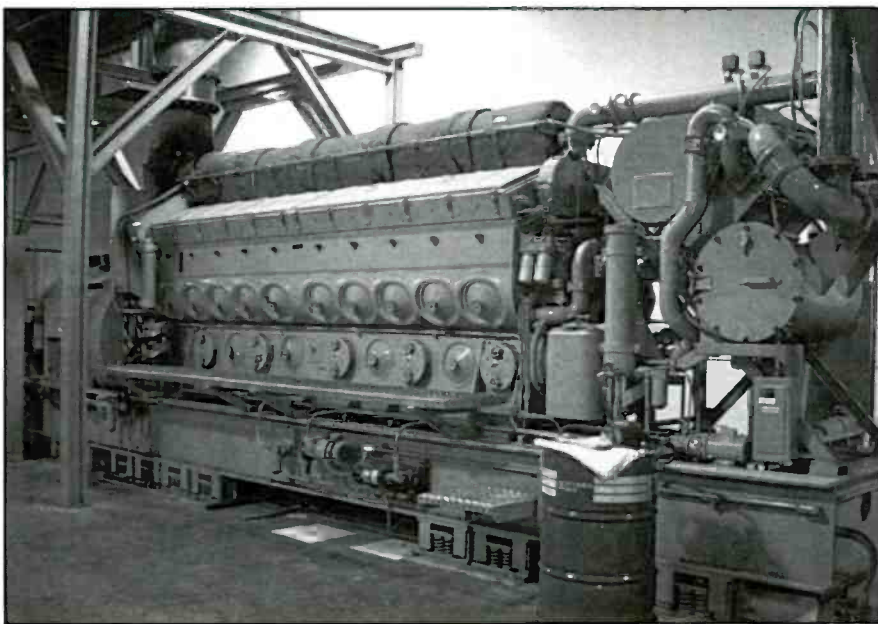
some of the results of their megawatts going into the sky. They were hoping I would have a better understanding for their operation, as opposed to some of the late-night shows claiming H.A.A.R.P. was some sort of secret spy program capable of bouncing signals off the ionosphere to count how many silver 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



H.A.A.R.P.'s focus is on the E-layer.



Inside H.A.A.R.P. facility.

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 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 with 6 diesel generators as back-up, providing power for the complete station. But the over-the-horizon program was terminated during the process of putting this program together, so the steam generation equipment was removed from the site, and the huge diesel generators were provided to the H.A.A.R.P. program for use in generating the power required to operate the massive megawatt transmitters.

My tour allowed me to see the massive high-frequency racks of transmitters that may produce up to 3.6 million watts of power output between 2.8 MHz and 10 MHz. Inside the transmitter shelters, your jaw will just about drop open when you see fire-hose-sized coax cables going up to the antenna network directly above it. Each shelter holds six transmitter cabinets containing two transmitters per cabinet. 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 that this 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.

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Gordo at the antenna array.

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 terrain that satellites may only image "from the outside." I was told that the H.A.A.R.P. station could even detect abandoned mines throughout the State of Alaska, as scientists look at the return echoes from the ground and ground density.

Finally, for those of you (as I will next September) drive by the facility, be assured that their station will not effect

the weather, nor radio range, and won't even effect the little creatures directly below the powerful transmitters and antenna system because of the ground screen that is placed above head level when walking under all of those crossed dipoles. I asked whether or not the ground got warm below the ground screen, and they said absolutely not!

I asked whether or not one can anticipate when H.A.A.R.P. might come on the air, and they indicate their research activities depend a lot on 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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the wireless connection

a look behind the dials

by Peter J. Bertini, <radioconnection@juno.com>

A Classic Radio — The Hallicrafters TW-2000 — Goes Solid State!

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



Photo 1: The Hallicrafters TW-1000 (on the left) is tube powered, the TW-2000 next to it has been converted to solid-state operation.

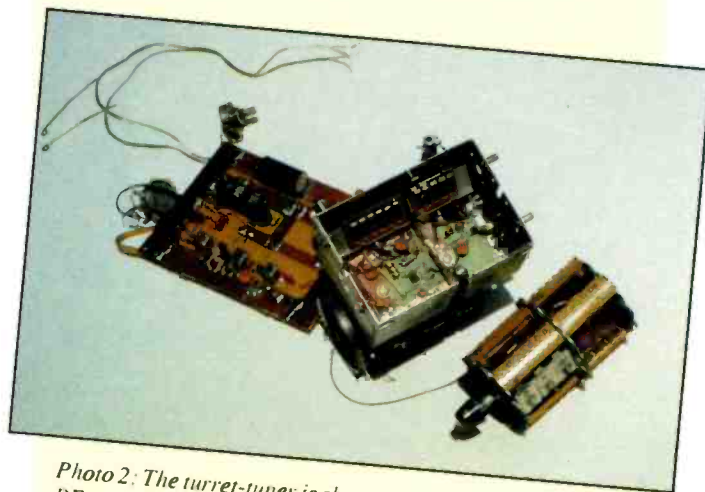


Photo 2: The turret-tuner is shown with the turret removed. The RF amplifier and mixer stages are on two small circuit boards inside the tuner. The IF, detector, AVC, and audio stages are on the large circuit board to the left of the tuner. The antenna, RF, and LO coils for all eight bands are contained in the turret.

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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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

(5) Download manual for free at <http://bama.sbc.edu>.

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.

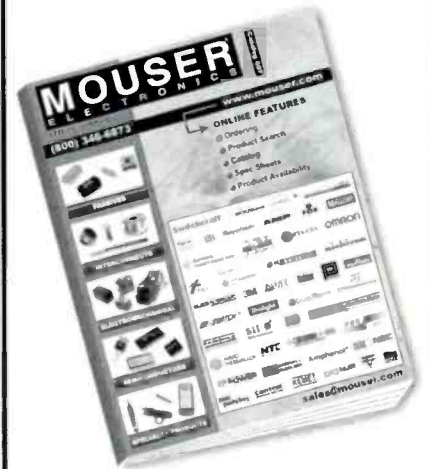
"This solid-state conversion was more like a home-brew project than a traditional restoration. Generally, I begin a home-

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

electronic components



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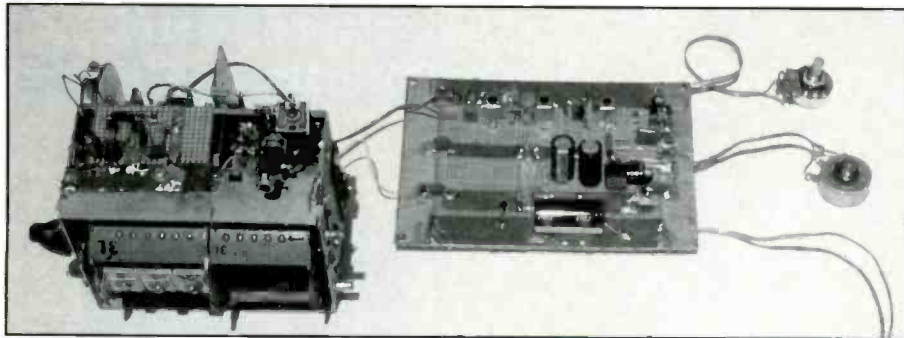


Photo 3: Side view of the tuner shows the circuit board containing the voltage regulator and LO circuits mounted on the tuner.

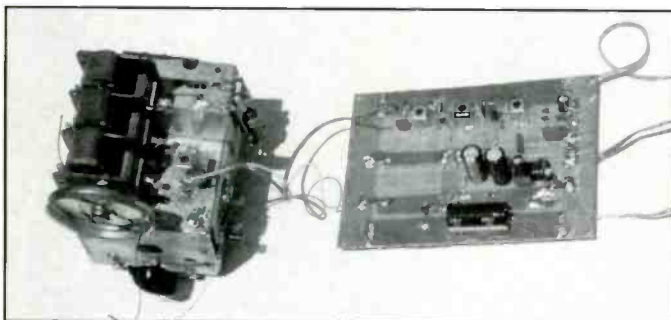


Photo 4: Top view of the tuner shows the first IF transformer mounted where the 1L6 used to be. Add batteries, speaker, and antenna to this arrangement and we have a functional radio!

tube-based circuit. I worked-up a circuit based on information found in the 1980 and 1987 *ARRL Radio Amateur's Handbooks*. The ARRL handbooks published during the 1980s seem to be the most useful for this purpose. The more recent editions are less helpful. To keep the design straightforward, I decided to build the IF, detector/AVC and audio stages on a separate circuit board that would be located under the chassis of the TW-2000. I chose to incorporate a low-cost ceramic filter in the IF and use transistor-style IF transformers. The only original electrical components outside the tuner would be the volume control and speaker. These choices would simplify the design and avoid difficulties in case some of the original components were bad."

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 ratio of 400) using the whole tuned winding and a turns ratio of about 10 (impedance ratio 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 wind-

ing 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 1N60A 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

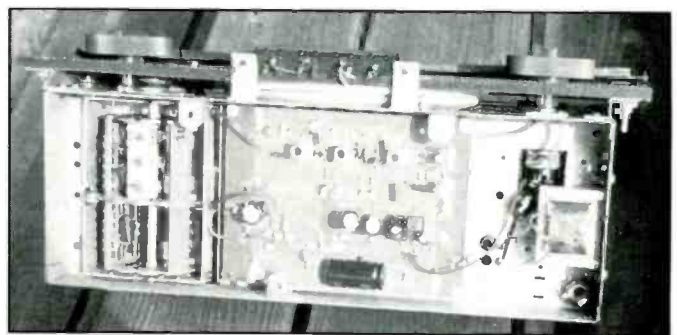


Photo 5: All the components are finally installed in the TW-2000 chassis. The output transformer is mounted on the right side of the chassis and the phone jack has been moved to the lower right corner of the chassis.

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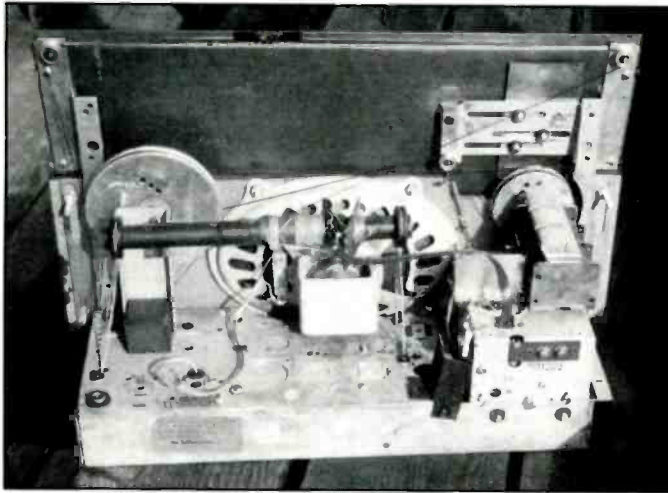
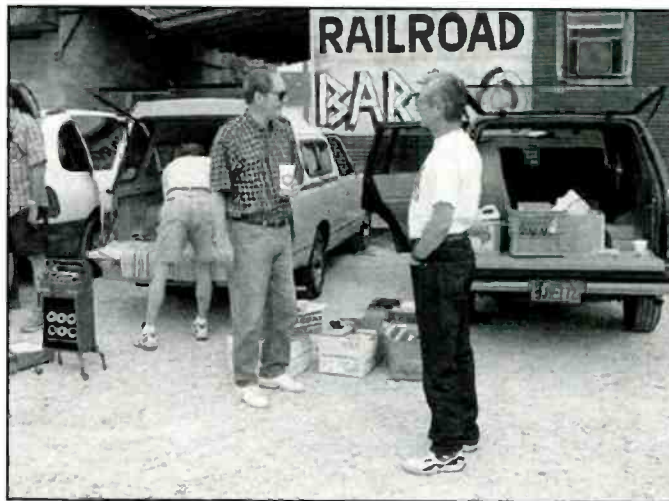


Photo 6: Rear view of the TW-2000 looks odd, as most of the components are now under the chassis.



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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 than before. The sensitivity and selectivity of the "converted" TW-2000 are noticeably better than 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

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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.gvvc.com/~eden-gel/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.

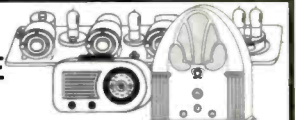
"The dial escutcheon on the TW-2000 is solid brass. Mine had a thin coating of green crud all over it. Polishing and re-lacquering restored it to its former beauty."

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!"

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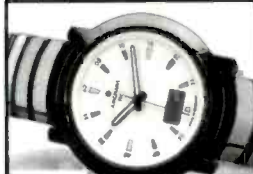
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You've Recently Told Us . . .

Our Monthly Surveys Paint The Big Picture

by Harold Ort, N2RLL, Editor

We'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 always comes along, while only 20 percent 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, KB0LQY of Jennings, Missouri, and Christian Bryant, of Lafayette, Georgia. Congratulations, and thanks for taking time to do our survey! ■

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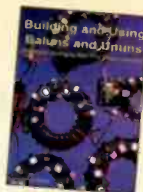
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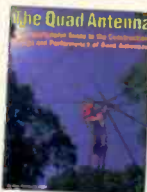
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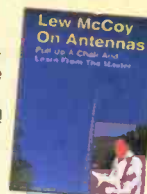
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Follow The Money

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 is really 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 periodical," 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".

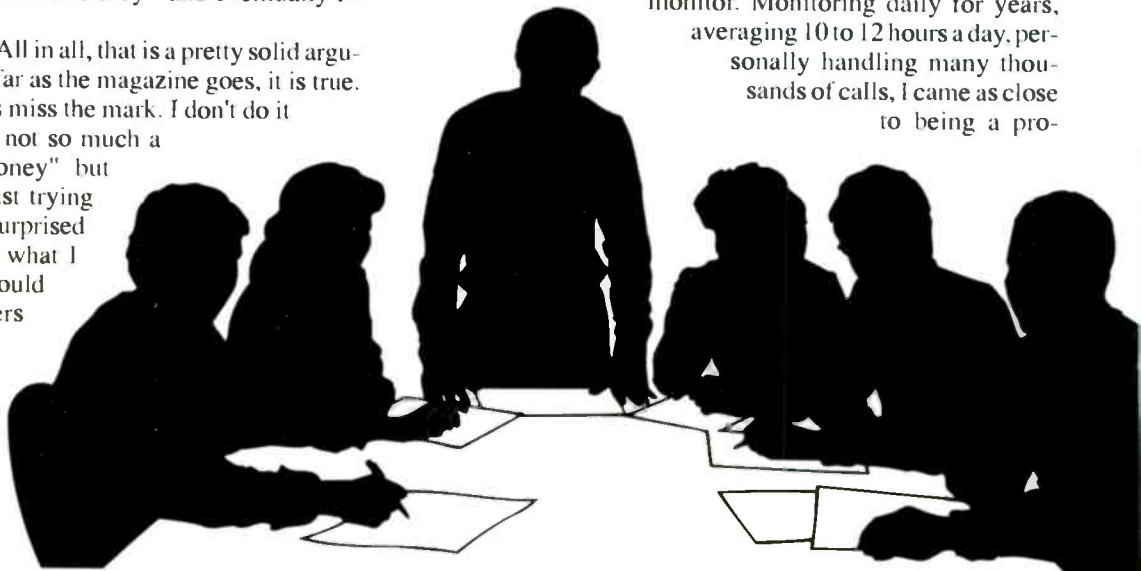
Thanks for defending me. All in all, that is a pretty solid argument. I hope that, at least as far as the magazine goes, it is true. For my part, however, it does miss the mark. I don't do it for the money. For me, it is not so much a case of "following the money" but "showing me the action". Just trying 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 darned 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 Sandbagger! 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-



professional CBER as you can come. During those years I developed a deep appreciation of how very useful radio can be to the average citizen on a daily basis. I also developed, with a lot of help from my friends, an active and highly interactive network of CB, Amateur, Cellular and Broadcast operator that provided the people of our area with unparalleled 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 background 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 am in opposition to the 'establishment', perhaps even a little radical, I won't expect you to necessarily to 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 not 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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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

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What GOES Up, Images Must Come Down

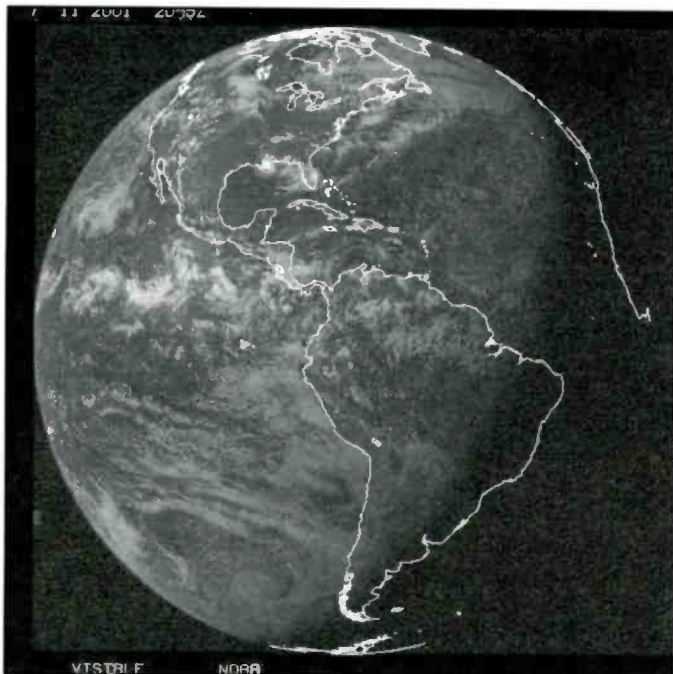
At press time, the National Oceanic and Atmospheric Administration (NOAA) is planning the launch of a new Geostationary Operational Environmental Satellite (GOES), or GOES-M, a weather satellite. GOES-M should help forecasters better detect solar storms that could adversely impact technological systems 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,



GOES-8 full-disk image taken July 11, 2001 (NOAA Photo).

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 WEFAX 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 (USIWBC) 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 gages; 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 19 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: 3dB 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-

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The new RCI-2950DX (25W PEP) and RCI-2970DX (150W PEP) offer a unique opportunity for operators to own a two band/multi-mode transceiver at a price anyone can afford. Tech Plus waiting to upgrade? This rig can get you started on HF!

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existing rig, the RCI-2950DX or RCI-2970DX can easily go from your shack to your car in minutes. Field day or supplemental club station, these rigs will help you get the most of our recent band openings on 12 and 10 meters.

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sions 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 use 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 KC-135, NASA931, in reduced gravity dive. (NASA Photo).

Students aboard NASA KC-135 "vomit comet." (NASA-Photo).



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). (Believe these are the Advanced Range Instrumentation Aircraft used to track satellite and cruise missile launches—Keith.)

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).

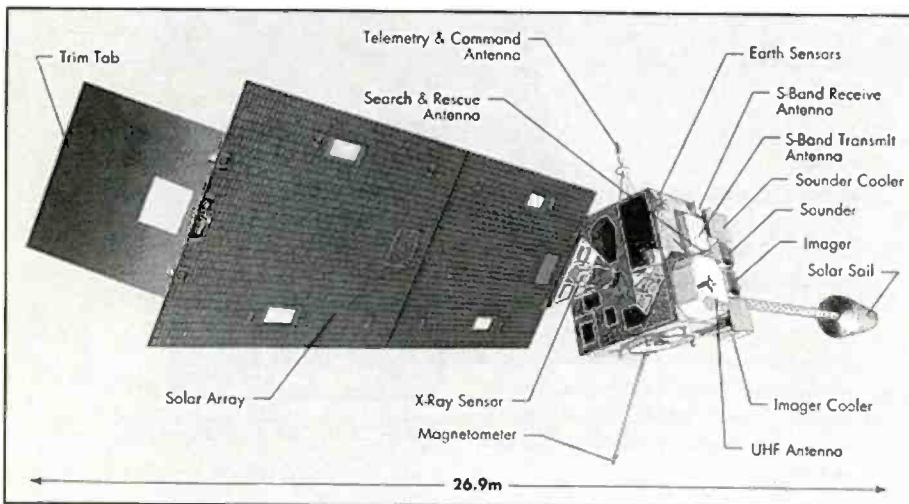
149.200: NASA Glenn Research Center uplinking voice on Applications Technology Satellite-3 (ATS-3), channel 2, talking to "Paul in Fl." (Mike-Ohio).

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). ■



New GOES-M launched July 2001 (NASA-Photo).

v.i.p.

spotlight

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.

POPULAR COMMUNICATIONS

Survey Card

Thank you for participating in this month's CQ Reader Survey.

Circle the numbers below that correspond to your answers:

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60

I am most interested in the following hobby radio activities

(check one or more): Broadcast Band Listening/DXing

Shortwave Broadcast Listening/DXing Utility DXing

Scanning VHF/UHF Antique Radio Restoration

Citizens Band FRS-Family Radio Service

Amateur Radio (Active Ham)

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

Your occupation: Student Professional Engineering

Military Technical Retired Other

Please circle the correct month of this issue.

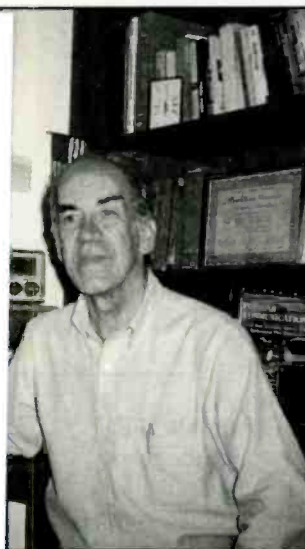
Jan	Feb	Mar	Apr	May	Jun
Jul	Aug	Sep	Oct	Nov	Dec

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Carlos Queiroz at his monitoring post shack.

...ion (or one-year subscription entries to: "VIP Spotlight," ...ille, NY 11801 or E-mail your ...e sending photos. If you're E- ...with your name in the "sub-

Carlos Queiroz

...e '60s I discovered SWL/ham ...ficer in an Indian camp off the ...c with civilization was through ...lio.

...lio magazines, and as I thumbed

through them, I fell in love with radio.

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." ■

pop'comm survey

october 2001

Circle Reader service #

1. I get Popular Communications from:

Bookstore in a mall	1
Newsstand	2
Electronics store	3
Supermarket	4
Convenience store	5
Drug store	6
Subscription	7

2. Finding Pop'Comm on the newsstand in my area is relatively easy.

Yes	8
No	9

3. When I get Pop'Comm, I spend the following amount of time with the magazine:

Less than a half-hour	10
One-half to one hour	11
One to two hours	12
Two to three hours	13
More than three hours	14

4. I've purchased a product as a direct result of reading a Pop'Comm equipment review:

Yes	15
No	16

5. I've purchased a product as a direct result of reading a Pop'Comm advertisement:

Yes	17
No	18

6. I would purchase a "Best of Alice Brannigan" book if it were available.

Yes	19
No	20

7. During the past 12 months I've used a CB radio about this much time:

I haven't	21
Once or twice	22
Three or four times	23
Several times daily	24
Only about once a week	25
About once a month	26

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 or 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.) Now it's time for a computer study.

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 $2010/\text{frequency in MHz}$. If the antenna is constructed in the form of an equilateral triangle, the formula is $670/\text{frequency in MHz}$. 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

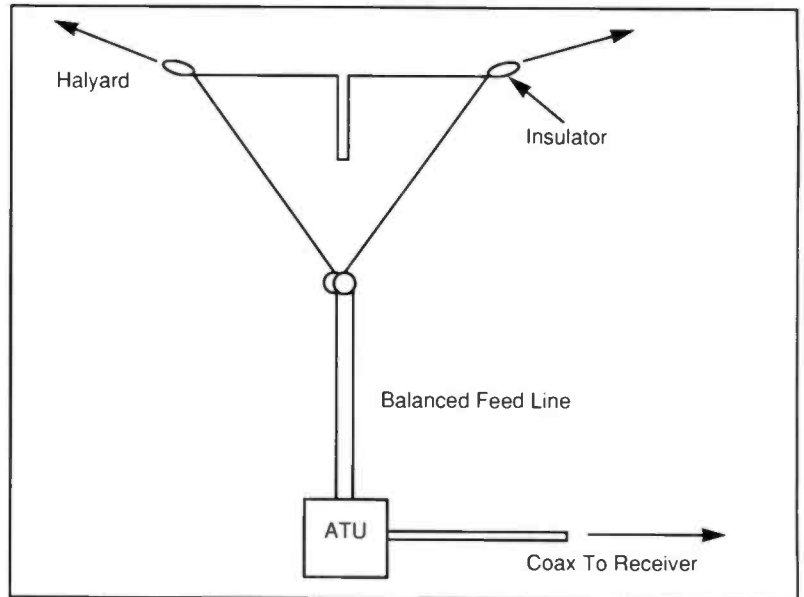


Figure 1.

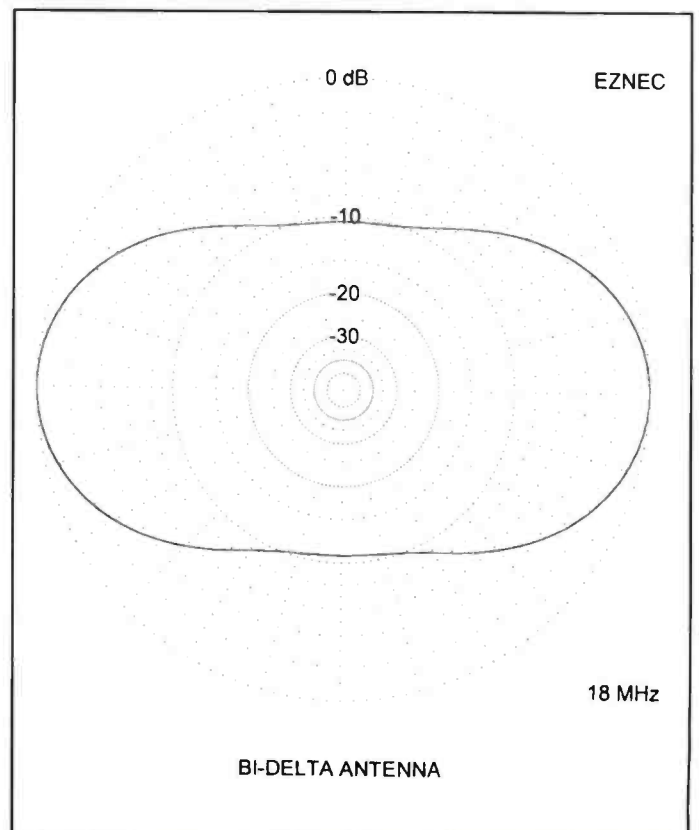


Figure 2.

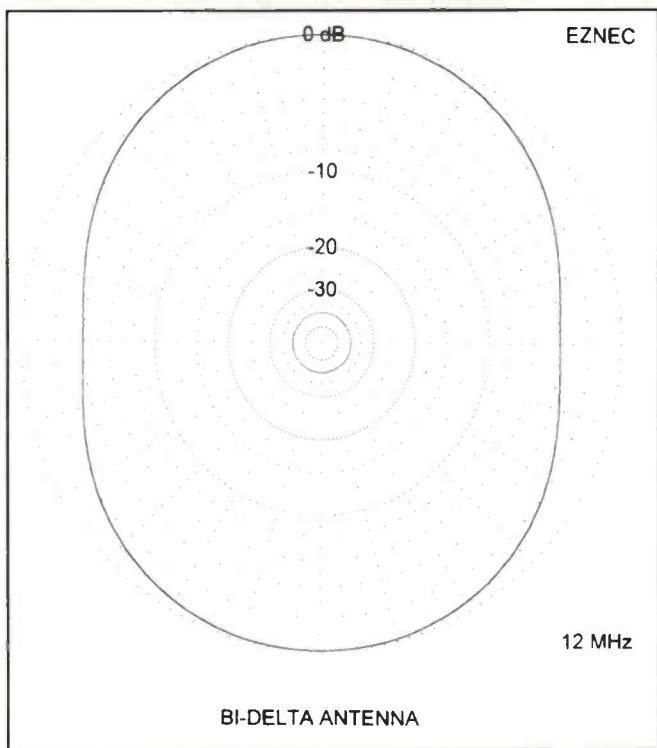


Figure 3.

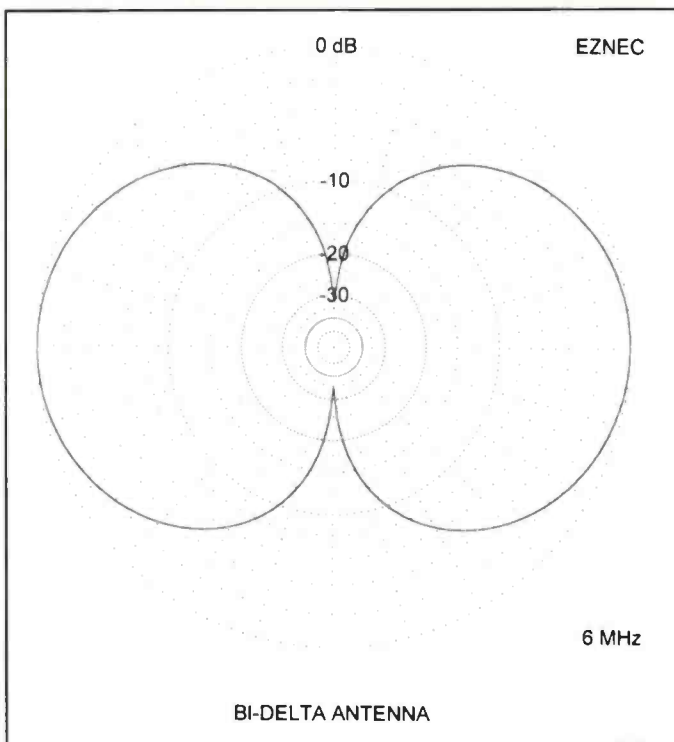


Figure 4.

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 per-

formance 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 (FEC) 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 in 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 hams, diplomatic, research, commercial and maritime RTTY.

Listen to maritime users, diplomats and amateurs send and receive *error-free* messages using various forms of TOR (Telex-Over-Radio).

Monitor Morse code from hams, military, commercial, aeronautical, diplomatic, maritime

Super Active Antenna

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

Mount it outdoors away from electrical noise for maximum signal, minimum noise. Covers 50 KHz-30 MHz.

Receives strong, clear signals from all over the world. 20 dB attenuator, gain control, ON LED.

Switch two receivers and auxiliary or active antenna. MFJ-1024 \$139⁹⁵ 6x3x5 inches. Remote has 54 inch whip, 50 feet coax. 3x2x4 inches. 12 VDC or 110 VAC with MFJ-1312. \$14.95.

Indoor Active Antenna

Rival outside long wires with this *tuned* indoor active antenna.

"World Radio TV Handbook" says MFJ-1020B is a "fine value... fair price... best offering to date... performs very well indeed."

Tuned circuitry minimizes intermod, improves selectivity, reduces noise outside tuned band. Use as a preselector with external antenna. Covers 0.3-30 MHz. Tune, Band, Gain, On/Off/Bypass Controls. Detachable telescoping whip. 5x2x6 in. Use 9 volt battery, 9-18 VDC or 110 VAC with MFJ-1312. \$14.95.

Compact Active Antenna

Plug this compact MFJ all band active antenna 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.

Detachable 20 inch telescoping antenna. 9 volt battery or 110 VAC MFJ-1312B. \$14.95. 3/16x1/2x4 in.

Eliminate power line noise!

MFJ-1026 \$179⁹⁵

New! Completely eliminate power line noise, lightning crashes and interference *before they get into your receiver!* Works on all modes -- SSB, AM, CW, FM, data -- and on all shortwave bands. Plugs between main external antenna and receiver. Built-in active antenna picks up power line noise and cancels undesirable noise from main antenna. Also makes excellent active antenna.

MFJ Antenna Matcher

MFJ-959B \$99⁹⁵

Matches your antenna to your receiver so you get maximum signal and minimum loss.

Preamp with gain control boosts weak stations 10 times. 20 dB attenuator prevents overload. Select 2 antennas and 2 receivers. 1.6-30 MHz. 9x2x6 in. Use 9-18 VDC or 110 VAC with MFJ-1312. \$14.95.

Dual Tunable Audio Filter

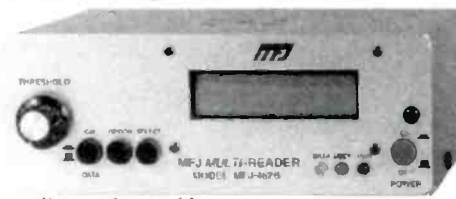
MFJ-752C \$99⁹⁵

Two separately tunable filters let you peak desired signals and notch out interference at the same time. You can peak, notch, low or high pass signals to eliminate heterodynes and interference. Plugs between radio and speaker or phones. 10x2x6 in.

High-Gain Preselector

MFJ-1045C \$99⁹⁵

High-gain, high-Q receiver pre-selector 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 let you select 2 antennas and 2 receivers. Dual coax and phono connectors. Use 9-18 VDC or 110 VAC with MFJ-1312. \$14.95.



MFJ-462B \$179⁹⁵

-- all over the world -- Australia, Russia, Japan, etc. MFJ's exclusive *TelePrinterPort™* lets you monitor any station 24 hours a day by printing transmissions on an Epson compatible printer. Printer 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 *AutoTrak™* Morse code speed tracking.

Use 12 VDC or use 110 VAC with MFJ-1312B AC adapter, \$14.95. 5/16x2 1/2x5 1/4 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.

CW, RTTY, ASCII Interface

MFJ-1214PC \$149⁹⁵

Use your computer and radio to receive and display brilliant full color FAX news photos and incredible WeFAX weather maps. Also RTTY, ASCII and Morse code. Frequency manager lists over 900 FAX stations. Auto picture saver.

Includes interface, easy-to-use menu driven software, cables, power supply, manual and *JumpStart™* guide. Requires 286 or better computer with VGA monitor.

High-Q Passive Preselector

High-Q passive LC MFJ-956 \$49⁹⁵

preselector boosts your favorite stations while rejecting images, intermod and phantom signals. 1.5-30 MHz. Preselector bypass and receiver grounded positions. Tiny 2x3x4 inches.

Super Passive Preselector

MFJ-1046 \$99⁹⁵

New! Improves any receiver! Suppresses strong out-of-band signals that cause intermod, blocking, cross modulation and phantom signals. Unique Hi-Q series tuned circuit adds super sharp front-end selectivity with excellent stopband attenuation and very low passband loss. Air variable capacitor with vernier. 1.6-33 MHz.

Easy-Up Antennas

How to build and put up inexpensive, fully tested wire antennas using readily available parts that'll

bring signals in like you've never heard before. Antennas from 100 KHz to 1000 MHz. MFJ-38 \$16⁹⁵

MFJ Antenna Switches

MFJ-1704 \$64⁹⁵ MFJ-1702C \$24⁹⁵

MFJ-1704 heavy duty antenna switch lets you select 4 antennas or ground them for static and lightning protection. Unused antennas automatically grounded. Replaceable lightning surge protection. Good to 500 MHz. 60 dB isolation at 30 MHz. MFJ-1702C for 2 antennas.

World Band Radio Kit

Build this regenerative shortwave receiver kit and listen to signals from all over the world with just a 10 foot wire antenna. Has RF stage, vernier reduction drive, smooth regeneration, five bands. MFJ-8100K \$69⁹⁵ kit MFJ-8100W \$89⁹⁵ wired

21 Band World Receiver

MFJ's MFJ-8121 new 21 Band World Receiver lets you travel the world from your armchair! Listen to BBC news from London, live music from Paris, soccer matches from Germany and more! Covers 21 bands including FM, Medium Wave, Long Wave and Shortwave. *Sony®* integrated circuit from Japan, multicolored tuning dial, built-in telescopic antenna, permanent silkscreened world time zone, frequency charts on back panel. Carrying handle. Operates on four "AA"s. Super compact size! MFJ-8121 \$39⁹⁵

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world band

tuning tips *your monthly international radio map*

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.

UTC	Freq.	Station/Country	Notes	UTC	Freq.	Station/Country	Notes
0000	3280	La Voz del Napo, Ecuador	SS	0300	9765	Voice of Russia, via Vatican	
0000	6165	Zambia Broadcasting Corp.	unid	0300	11800	RDP Int'l, Portugal	PP
0000	11870	Radio Yugoslavia		0300	17820	VOA Relay, Philippines	
0000	4980	Ecos del Torbes, Venezuela	SS	0300	17615	RDP Int'l, Portugal	PP
0030	9525	Voice of Vietnam, via Canada		0300	15095	Far East Broadcasting Corp., Philippines	
0030	15570	Vatican Radio		0300	9520	Radio Veritas Asia, Philippines	CC
0030	9605	Vatican Radio		0300	9737	Radio Nacional, Paraguay	SS
0100	9445	Voice of Turkey	TT	0300	4890	NBC, Papua New Guinea	
0100	12040	Radio Ukraine Int'l		0300	3315	Radio Manus, Papua New Guinea	Pidgin
0100	9630	Central Broadcasting System, Taiwan	CC	0330	3385	Radio East New Britain, Papua New Guinea	
0100	7275	RTV Tunisienne, Tunisia	AA	0330	3365	Radio Milne Bay, Papua New Guinea	
0100	11640	Trans World Radio, South Africa		0330	15455	Voice of Russia	RR
0130	9645	VOA relay, Sri Lanka		0330	13800	Radio Norway Int'l	NN
0130	11845	Voice of Turkey		0330	15240	VOA Relay, Northern Marianas	
0130	11730	BBC Relay, Seychelles Is.		0330	11635	Radio Norway Int'l	NN
0200	15395	UAE Radio	AA	0400	11795	Radio Free Asia, USA, via No. Marianas	CC
0200	15175	Radio Free Asia, USA	unid	0400	6575	Voice of Korea	RR
0200	12005	RTV Tunisienne, Tunisia	AA	0400	7255	Voice of Nigeria	
0200	18960	Radio Sweden	Swedish	0400	17675	Radio New Zealand Int'l	
0200	125280	BBC relay, Thailand		0400	11920	RTV Marocaine, Morocco	AA
0200	13610	Radio Damascus, Syria		0430	11725	Radio New Zealand Int'l	
0200	15205	Deutsche Welle relay, Sri Lanka	GG	0430	15345	RTV Marocaine, Morocco	AA
0200	3320	South African Broadcasting Corp.		0430	6185	Radio Educacion, Mexico	SS
0200	6055	Radio Exterior de Espana, Spain	SS	0430	17725	Voice of Africa/R. Jamahiriya, Libya	AA/EE
0200	9580	Radio Korea Int'l, South Korea	SS	0500	5770	Radio Miskut, Nicaragua	SS
0200	15360	BBC Relay, Singapore		0500	6348	Echo of Hope (Korean clandestine)	KK
0200	13675	UAE Radio		0500	11990	Radio Kuwait	AA/EE
0230	4965	Christian Voice, Zambia		0500	4725	Radio Myanmar, (Burma)	BB
0230	15575	Radio Korea Int'l		0500	15160	Radio New Zealand Int'l	
0230	17640	Swiss Radio Int'l, via Germany		0500	9705	Radio Mexico Int'l	SS
0230	15205	Broadcasting Service of the Kingdom, Saudi Arabia	AA	0500	3945	Radio Tampa, Japan	JJ
0230	9895	VOA Relay, Sao Tome		0500	9635	Voice of the Islamic Rep. of Iran	
0230	4120	Voice of National Salvation (Korea, clandestine)	KK	0530	11690	Radio Jordan	
0230	15390	Deutsche Welle relay, Rwanda		0530	21670	Radio Japan/NHK	
0230	11775	Radio Romania Int'l		0530	17825	Radio Japan/NHK	
0230	15105	Radio Romania Int'l		0600	11730	Radio Japan/NHK	
0245	9480	Voice of Russia	CC	0600	3316	Sierra Leone Broadcasting Service	
0250	13710	Radio Netherlands, via Russia		0600	5995	ORTM, Mali	FF
0300	12000	Voice of Russia		0600	17535	Kol Israel	
0300	12070	Radio Tikhoy Okean, Russia	RR	0600	9435	Kol Israel	
0300	9530	Radio Rossii, via Magadan, Russia	RR	0600	6973	Galei Zahel, Israel	HH

UTC	Freq.	Station/Country	Notes	UTC	Freq.	Station/Country	Notes
0600	15788	Galei Zahel, Israel	HH	1230	11955	Radio Nacional, Angola	PP
0600	11787	Radio Baghdad International, Iraq	EE	1300	6020	Radio Australia	Pidgin
0600	15084	Voice of Islamic Rep. of Iran	Farsi	1400	15195	Adventist World Radio, via Austria	
0600	13635	Voice of Islamic Rep. of Iran	Farsi	1400	15170	Radio Exterior de Espana, Spain	SS
0600	6145	Radio Japan/NHK, via Canada		1430	11765	KNLS, Alaska	RR
0630	11800	RAI Int'l, Italy	II	1430	15070	Alpha Lima Radio (Euro-pirate)	
0630	9875	Radio Vilnius, Lithuania		1500	13820	Radio Marti, USA	SS
0700	9525	Voice of Indonesia	II	1500	7160	Radio Tirana, Albania	
0700	7125	RTV Guineenne, Guinea	FF	1600	3290	Voice of Guyana	
0715	13640	Radio Telefis Eireann, Ireland, via Canada		1600	4052.5	Radio Verdad, Guatemala	SS
				1600	4775	Trans World Radio, Swaziland	GG
0730	17670	All India Radio		1615	4800	Radio Lesotho	
0800	4605	Radio Republik Indonesia, Serui	II	1630	4832	Radio Litoral, Honduras	SS/EE
0800	6350	Armed Forces Network, Hawaii	USB	1630	4890	Radio Chota, Peru	SS
0800	7260	Radio Vanuatu, Vanuatu		1630	4995	AFN, Sicily	
0800	7320	Magadan Radio, Russia	RR	1630	5050	Radio Tanzania	
0800	21590	Radio Netherlands, via Bonaire		1700	6190	Radio Slovakia Int'l	
0800	5010	HRMI, Radio Mi, Honduras	SS/EE	1730	6235	Trans World Radio via Albania	Slovak
0810	4800	Radio Buenas Nuevas, Honduras	SS	1730	6250	Radio Nacional, Equatorial Guinea	SS
0830	9865	KTWR - Trans World Radio, Guam	CC	1730	6940	Radio Fana, Ethiopia	Amharic
0900	15265	Adventist World Radio, Guam	CC	1730	7270	RTV Gabonaise, Gabon	FF
0900	7475	Voice of Greece	Greek	1730	9410	Far East Broadcasting, No. Marianas	unid
0900	11620	All India Radio		1800	9570	Radio Budapest, Hungary	
0900	9435	Radio Santes, via Germany		1800	11585	Reshet Bet Home Service, Israel	HH
0930	15545	Radio Ecclesia (Angola) via Germany	PP	1800	11640	World Beacon, USA via South Africa	
0930	4765	Radio Congo	FF	1830	11705	Trans World Radio via South Africa	
0930	15285	Radio Cairo, Egypt	AA	1830	12085	Voice of Mongolia	
0930	17860	Radio France Int'l	FF	1900	117795	Qatar Broadcasting Service	AA
0930	9900	Radio Cairo, Egypt		1900	3210	Radio Exterior de Espana relay, Costa Rica	SS
0930	17630	Radio France Int'l, via Fr. Guiana	SS				
1000	11765	BBC relay, South Africa		1900	4716	Radio Yura, Bolivia	SS
1000	15275	Deutsche Welle, Germany	GG	1900	4760	ELWA, Liberia	
1000	4918	Radio Quito, Ecuador	SS	1930	4805	Radio Difusora do Amazonas, Brazil	PP
1000	11990	Radio Finland Int'l	Finnish	1930	4819	Voz Evangelica, Honduras	SS/EE
1000	9925	Croatian Radio, via Germany	Croatian	1930	4939	Radio Amazonas, Venezuela	SS
1030	9550	Radio Havana Cuba		1930	4960	Radio Villa, Dominican Republic	SS
1100	5860	Voice of Jinling, China	CC	2000	5025	Radio Rebelde, Cuba	SS
1100	18950	Radio Denmark, via Norway	DD	2000	5100	Radio Liberia Int'l	
1100	17660	HCJB, Ecuador		2000	5985	Radio Vlaanderen Int'l, Belgium	
1100	11810	Croatian Radio via Germany	Croatian	2030	6025	Radio Budapest, Hungary	HH
1100	7345	Radio Prague, Czech Republic		2100	7265	Sudwestfunk, Germany	GG
1100	9635	Radio Nacional, Colombia	SS	2100	9575	Radio Mediteranie, Morocco	FF
1130	21550	Voz Cristiana, Chile	SS	2100	9830	Radio Havana Cuba	
1130	7280	Voice of the Strait, China	CC	2100	9870	Trans World Radio, Monaco	
1200	15125	Radio Republik Indonesia	II	2130	9925	Radio Vlaanderen Int'l, Belgium	
1200	5020	Solomon Islands Broadcasting Corp.		2130	11770	Voice of the Mediterranean, Italy	
1200	17785	China Radio Int'l	CC	2130	11820	Radio Polonia, Poland	
1200	21455	HCJB, Ecuador		2200	15100	Radio Pakistan	
1200	9400	Radio Bulgaria		2200	15140	Radio Sultanate of Oman	
1200	15415	China Radio Int'l		2200	15190	Radio Pilipinas, Philippines	
1200	15305	Radio Canada Int'l		2200	15215	Channel Africa, South Africa	
1200	17880	Radio Canada Int'l		2200	15295	Voice of Malaysia	
1200	7210	Radio Minsk, Belarus		2200	17860	Channel Africa, South Africa	
1200	6180	Radio Nacional Amazonas, Brazil	PP	2230	11760	Radio Havana Cuba	SS
1200	9970	RTBF, Belgium	FF	2300	17680	Voz Cristiana, Chile	SS
1200	21470	BBC relay, Cyprus		2300	15270	Voice of Armenia	Sundays
1230	11915	Radio Gaucha, Brazil	PP	2300	7185	Bangladesh Betar	
1230	11815	Radio Brazil Central, Brazil	PP	2300	5990	Radio Senado, Brazil	PP
1230	21740	Radio Australia		2330	6090	Radio Esparanza, Chile	SS
1230	11635	Radio Australia					

radios & high-tech gear

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-

review of new, interesting and useful products

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 Entré 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. Entré, which streams multiple audio programs simultaneously to different rooms in a house, will reach stores this summer.

"Entré 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, Entré makes it easy to access both internal and external audio, and to control other Kenwood Sovereign components. The unit's RS-232 ports allow Entré 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/E Music Recognition Service and OpenGlobe, MovieDB, and may be displayed on a television monitor. Connect Entré 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 on-screen video menus.

Although Entré 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. Entré 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, Entré 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 can not be uploaded to Entré through this port).

Entré 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 AAccess, a remote portal available later this year, will make it possible to play streaming audio in any room with a phone jack. Entré 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 Entré as well as setup of the Entré's meta-data Home PNA.

The services provided by OpenGlobe, an Indianapolis entertainment technology company, complement Entré 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 Entré'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.

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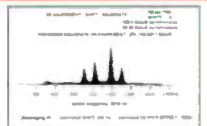
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Scanning The Mail, And Frequency Contest Update

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!

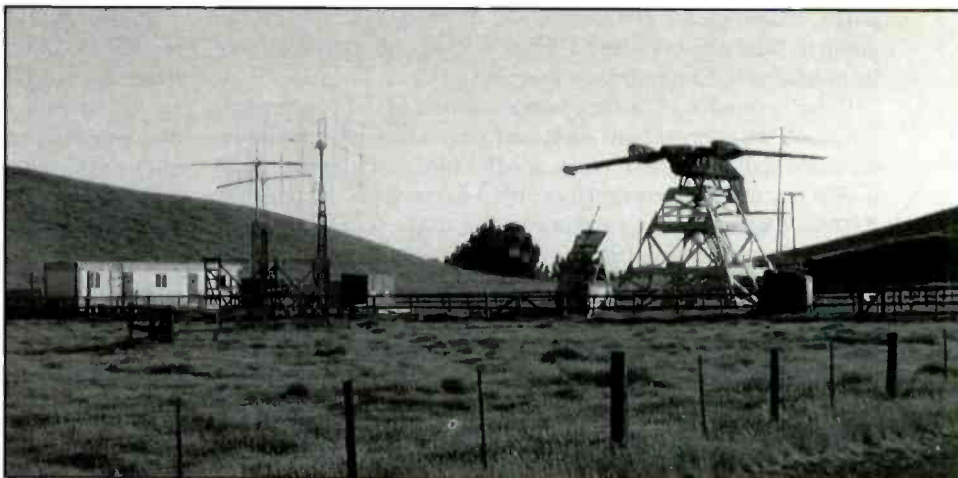
First, let's get to a quick question with some interesting pictures. Joe Rosenberger writes "I've been reading the magazine for years and always enjoy it. I recently moved to Fremont, CA, from Covington, KY, and was out walking the dog on one of the mountain roads near here (Morrison Canyon Road) and 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 set to our local police freq. This was in addition to a Lafayette receiver kept tuned to the Augusta State police frequency. Nobody changed the frequency on either radio without a major word with dad. He also kept an old tube radio out in the 'shed' where he could listen to the aircraft freq. (We lived only a half-mile or so from the local airport and 40 miles south of what is now Bangor International Airport."

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



Joe Rosenberger writes, "If you know what this is, let me know!"

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."

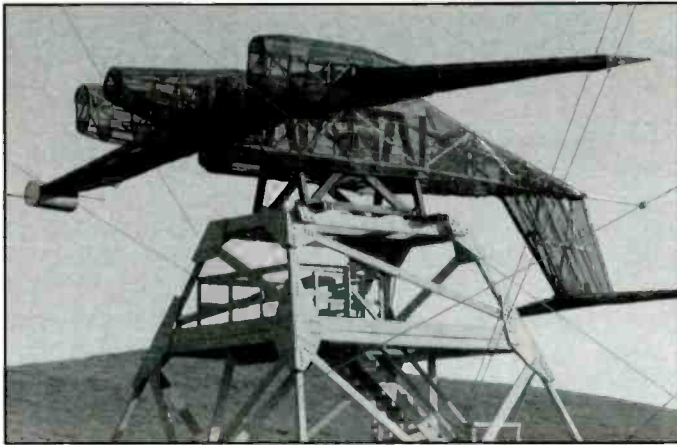
Regular contributor Phil Karras sent in quite a log. He says, "It took two days, but I got a callsign!" After a couple days of listening, he finally heard "This is base control WDB1599." (I couldn't find anything on this license, so it must be relatively new).

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."

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



You can't quite tell what this is made of, and Joe didn't say, but it looks like a wire mesh.

good, especially since I use a Cushcraft ARX2B for a scanner antenna."

Great antenna Jonah, and it sounds like it's working well for you.

Gil tells us that, "155.73 is the Salem, NH, PD repeater output. This is the next town to me. It was formally Derry, NH, PD. Have fun."

Thanks Gil! Keep listening!

Robert Reinhard says, "Enjoy reading your column, like the freq. of the month idea . . ." (*This has nothing to do with his frequency entry, but I thought Harold should see that somebody appreciates the effort without any sudden trips to Warsaw.*)

Robert continues, "In reference to 155.73 MHz, I live in Harrisburg, Pa., and I am able to receive a good signal from Lebanon, Pa., police main dispatch on 155.73. It is a repeater output and they do scramble some."

Bummer, Bob. Scrambling can be a pain to listen to, however, if officer safety is involved, we certainly can't complain about occasional use, can we?

"155.730 is the New Mexico State police Cuba and Espanola districts, used for mobiles to base. Just to let you know the base to unit freq. for that area is 155.790," writes Troy Waters, from Edgewood, New Mexico.

Thanks Troy, for the input, and the bonus frequency. Perhaps someday that will be a frequency of the month.

Gary Olson from Minnesota wrote with both an answer and a good question. "I picked up the March issue with my lunch today and feeling very lazy, I decided to tune to 155.73, sit down, and listen. I'm about 15 miles east of St Paul, MN, and I'm hearing a combination of the Minneapolis-St. Paul airport snow removal equipment (range: 20 miles), and a Washburn County, Wisconsin, law enforcement agency (range: 75 miles)."

Sounds like you're in a pretty good reception area, Gary.

Gary continues "Clever idea." (*Harold, take note, once again.*) "How do you determine what the FotM will be?"

Now that's cool. Our own official acronym! FotM.

Unfortunately, the answer to Gary's question is a bit vague. It usually revolves around a letter I've received, or something I've had reason to work with in the past month, but not always. I also try to vary the band a little bit so that people get a chance to experiment with frequency ranges that they might not normally listen to. So, I suppose, the ultimate answer to your question, Gary, is "on a whim."

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 to 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

suppose). Has anyone else encountered this in their area? I'd be curious to know.

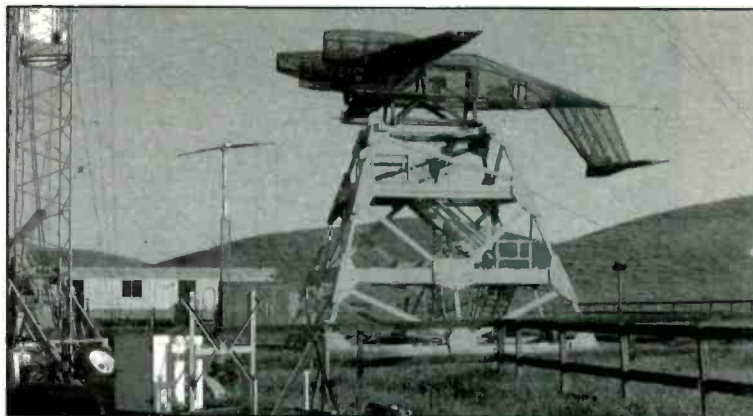
And my good friend John Bradley normally from Long Island, but spending a lot of time in New Jersey of late wrote, "Ha! Everyone knows that's Rutherford, NJ, PD! That's my local police freq. for the last nine months. Kinda like 154.845 for New Jersey. PL is 167.9 hz." (154.845 is his and my local police frequency when we're both at home, even though that's 1500 miles apart.)

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 Chickamauga 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



Surrounded by all these antennas, it must have something to do with communications or electronic emissions study of some form or another.

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.

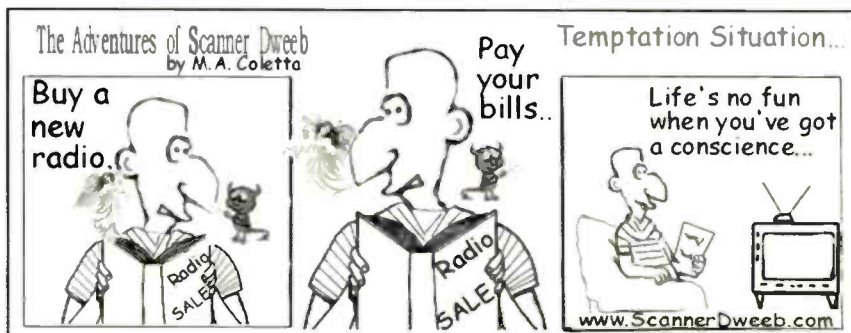
Finally, with one more trip to Texas, Michael Ross writes "In McLennan County, TX, this freq. is used by the county Sheriff Dept. to communicate with the police officers in the outlying towns, and the constables in the rural areas."

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

Let'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 Ethiopia.
- To raise the awareness of Ethiopians values, process, and institutional mechanisms which democracy, human rights key concepts in Ethiopian society.
- Inform the international community of 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 constitution 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 0800 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, Tadjikistan, in the former Soviet Union 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.

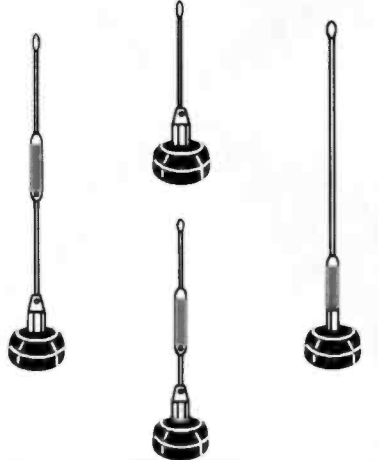
Anti-Iraq station **Radio Bopeshawa** is currently using **9960** Monday, Wednesday, Thursday, and Friday from 1500 to 1600 UTC. The station can be reached at AKPI, Postfach 16 0244, D-10338 Berlin, Germany.

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 care to send is always appreciated! Until next month, good hunting! ■



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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 computer tech, and sometimes co-host, "Vix" (Vickie) keeps things running smoothly. If you'd like to be kept abreast of upcoming shows and other station information, just drop 'em an E-mail and ask to be placed on their mailing list.

By the time you read this, 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 microphone 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,



K-PAH's new studio. Poised at "Area 51's" back door, almost anything goes at Nevada's first radio station on the Internet!



The mighty Tiger Radio has come to life again — with a roar that can be heard worldwide!

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

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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>.

Stream Ripper 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. A standalone (i.e. non-plug-in) version is also available for FREE! Check it out at <http://streamripper.sourceforge.net/>.

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 *PopComm* readers will be interested too. Until we meet again, happy listening and viewing. ■

If it deals with the Internet and technology, you'll find it covered at CNET Online.

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

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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.

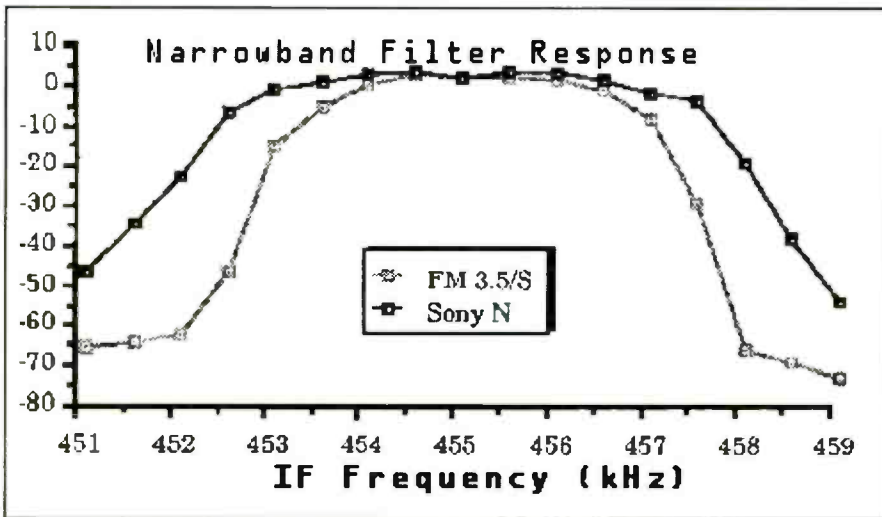
There are three basic types of IF filters used in AM communications receivers; DSP, ceramic, and mechanical. The DSP filtering in high-end receivers like the Ten Tec RX-340 comes the closest to achieving a shape factor of 1 over a wide range of bandwidths (Ten Tec specifications indicate 1.5 or better). 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-

Haitian Radio Shows in Boston

Day	Frequency	Time	Show	Type of Show
Everyday	1640 AM	24 hrs	Radio Nouveaute	Comm. affairs show
Everyday	1620 AM	24 hrs	Radio Energy	Comm. affairs show
Everyday	93.1 FM	24 hrs	SCAR	Comm. affairs show
Everyday	102.1 FM	6pm - 12am w/e 24hrs	Radio Concorde	Comm. affairs show
Everyday	1550 AM	5:00pm to 8:00pm	Haiti Diaspo Inter	Comm. affairs show
Everyday	1550 AM	12:00pm to 3:00pm	Vwa Lakay	Comm. affairs show
Weekly	1550AM	M-T-W-F	Galerie Haitienne	Delva Toussaint
Thursday	88.1 FM	6:00am to 8:00am	Kaleidoscope	wmbr
Friday	1600AM	11:00pm to 2:00am	Haiti-Diaspo-Inter	David Cange
Saturday	1550AM	7:30 am to 10:30am	Radio Compas	Promotion
Saturday	890AM	10:00pm to Midnight	Haiti-Diaspo-Inter	David Cange
Saturday	740AM	7-9am - 5-8pm	Canal Tropical	Max Nicolas
Sunday	88.1 FM	6:00am to 8:00am	Compas Sur FM	Compas music
Sunday	1330AM	7:00am to 8:00am	Haiti-Diaspo-Inter	David Cange
Sunday	88.1 FM	8:00am to 10:00am	Haiti Focus	Comm. affairs show
Sunday	1330AM	2:00pm to 4:00pm	Haiti-Diaspo-Inter	David Cange
Sunday	1330AM	4:00pm to 6:00pm	Samuel Osias	Talk Show
Sunday	1330AM	6:00pm to 8:00pm	Radio Nouveate	Comm. affairs show

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.

ters should eliminate interference from adjacent frequencies without any appreciable degradation of signal strength or audio quality. Unlike AM IF filters that are specialty components, replacement filters for FM can be ordered through any of the national electronic component suppliers.

CCRadio AM Filter Upgrade

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."

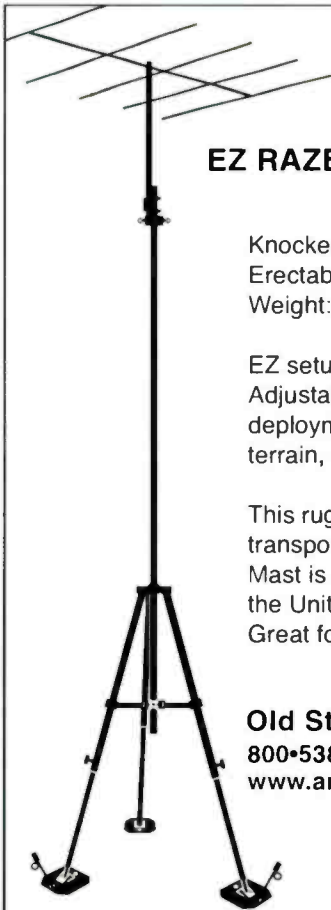
Kiwa provides outstanding step-by-step instructions for installation of their filter modifications. If you are unsure of your soldering capabilities or don't want to risk irreparable damage, then Kiwa will perform the installation for a reasonable fee. Visit www.kiwa.com for more information. Remember 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 talk 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 WDWZ as the new home of Radio Disney. WWNZ Orlando 740 is now WQTM sports talk formerly on 540 AM. WQTM Pine Hills 540 call letters are now WFLF, 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 WAOA "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 WFHM 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



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Pending							
New Call	Location	Freq.	Old Call				
KSFB	Palo Alto, CA	1220	KBZS	WXXB	Delphi, IN	102.9	WNJY
WBTK	Richmond, VA	1380	WVBB	KZAN	Hays, KS	91.7	New
KJCY	Saint Ansgar, IA	95.5	KHAM	WEKU	Richmond, KY	88.9	WEKU-FM
KZRD	Dodge City, KS	93.9	KRPB	WJNH	Baker, LA	107.3	WTGE
WKVU	Utica, NY	100.7	WVVC	WTGE	Baton Rouge, LA	100.7	WXCT
WUUZ	Cooperstown, PA	107.7	WHUG	KSUR	Benton, LA	92.1	KLKL
				WZRB	Jackson, LA	104.5	WUXN
				KLKL	Minden, LA	95.7	KSUR
				WMGC-FM	Detroit, MI	105.1	WGRV-FM
				KJLV	North Branch, MN	90.3	New
				KFME-FM	Garden City, MO	105.1	KGAR
				WDOX	North Cape May, NJ	106.7	WJNN
				WYSI	Canton, NY	96.7	WVLF
				WXBB	DeRuyter, NY	105.1	WVOQ
				WSKU	Little Falls, NY	105.5	WOWB
				WMOS	Montauk, NY	104.7	WCOS
				WVLF	Norwood, NY	96.1	WYSI
				WRBY	Rome, NY	102.5	WSKS
				WSKS	Whitesboro, NY	97.9	WOWZ
				WXTM	Cleveland Heights, OH	92.3	WZJM
				KWPK-FM	Sisters, OR	104.1	KPXA
				KRCO-FM	Warm Springs, OR	96.5	KWPK
				WOGI	Charleroi, PA	98.3	WOGI-FM
				WLKK	Erie, PA	102.3	WJET
				WHBO	Starview, PA	92.7	WEGK
				KQZX	Markham, TX	91.3	New
				KFLB-FM	Odessa, TX	90.5	KENT-FM
				KXFF	Cedar City, UT	92.5	KCIN
				WSVY-FM	Norfolk, VA	105.3	WJCD
				WBTJ	Richmond, VA	106.5	WRCL
				WJMO-FM	Richmond, VA	105.7	WPLZ-FM
				WBPS-FM	Warrenton, VA	94.3	WPLC-FM
				WJCD	Windsor, VA	107.7	WSVY-FM
				WPLT	Spooner, WI	106.3	New
				WLWF	Ravenswood, WV	93.1	WMOV-FM

Changes							
New Call	Location	Freq.	Old Call				
WWTM	Decatur, AL	1400	WAVD				
KVDW	England, AR	1530	KHTE				
KCKC	Concord, CA	1480	KRHT				
WGAF	Alachua, FL	1090	New				
WTWD	Plant City, FL	910	WSUN				
WNNG	Warner Robins, GA	1350	WCOP				
WDID	Highland, IL	880	WINU				
WINU	Shelbyville, IL	1560	WDID				
WCNM	Lewiston, ME	1240	WTME				
KDOW	St. Louis Park, MN	950	KSGS				
WFNY	Gloversville, NY	1440	New				
WJET	Erie, PA	1400	WLKK				
WTKT	Harrisburg, PA	1460	WWKL				
WWRI	West Warwick, RI	1450	WHRC				
KTXV	Frankston, TX	890	New				
KFLB	Odessa, TX	920	KENT				
KSUR	Parowan, UT	1400	New				
KKNW	Seattle, WA	1150	KSRB				
KSFB-FM	San Rafael, CA	100.7	KSFB				
KCHC	Willows, CA	106.3	New				
WCOP-FM	Unadilla, GA	99.9	WAFI				
WCOS	Lexington, IL	99.5	WMOS				

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 also 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.cyberhaiti.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 Nouveaute (1640 kHz) and

came up with two addresses and a phone number (which I think is on their website). The two addresses are Radio Nouveaute, 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 waffling 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 "The KFTI weather is coming up." I logged this during the day last winter under KFDI, which I had been after for 30+ years. (Martin, OR)

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

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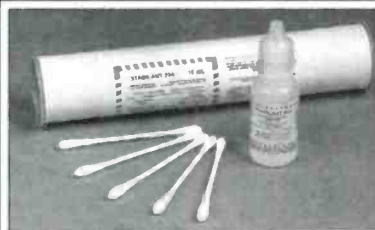
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1530 VOA Pinheira, Sao Tome e Principe at 2323 tentative with a 1-kHz test tone mixing with WDJZ and WVBF, only heard with cardioid array set for eastern pick-up. This station often runs such test tones when not on regular programming. (Connelly, MA)

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 highway 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 to be 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.

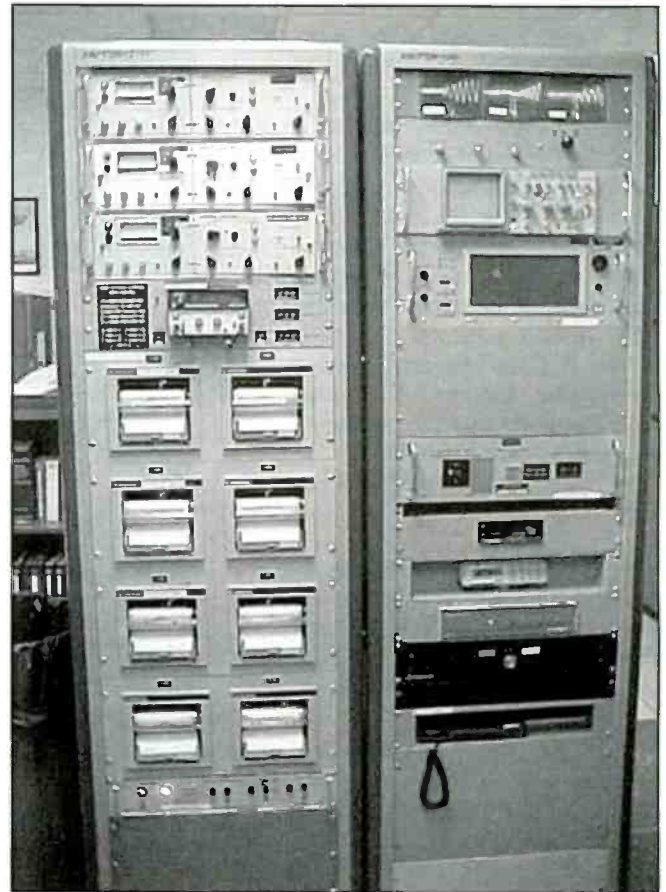
Located just three miles southeast of Tok, (rhymes with poke or Coke) Alaska along the Alaska Highway is the main transmitter and monitoring site for the Gulf of Alaska LORAN chain. It's part of the LORAN system funded by the U.S. Department of Transportation. The Aeronautical Information Manual pilot/controller glossary defines LORAN as "(a)n electronic 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 (LORAN) 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 anten-

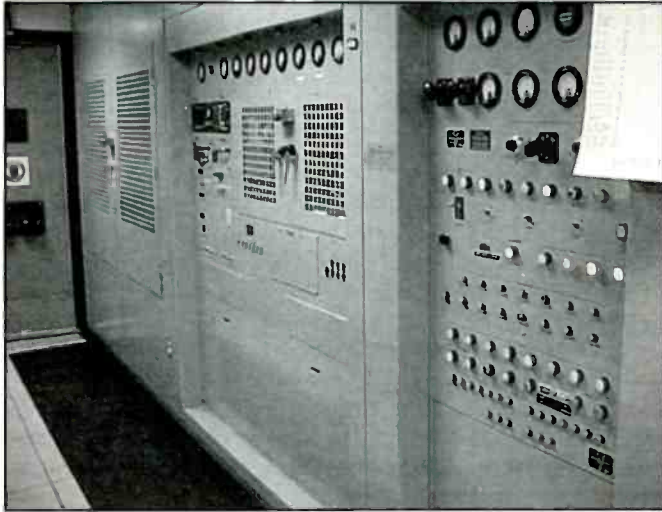


The Loran receiver/monitor equipment.

na. 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)
Aph 121.6
Covington Municipal (9A1)
Aph 119.875
Summerville/Wyatt Airport (GA23)
Unicom 122.8

MI

Manistee/Blacker (MBL)
ILS Rwy 27 108.35

MO

Columbia Regional (COU)
Aph 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)
Aph 119.55

WY

Rock Springs/Sweetwater County (RKS)
ASOS 118.375

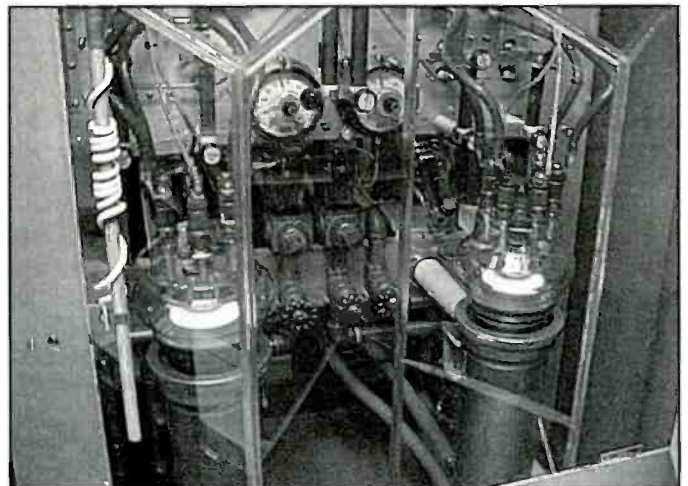
CHANGED FREQUENCIES

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)
Aph was 350.8, now 310.8
was 346.0, now 290.25
was 322.0, now 270.35
Livermore Municipal (LVK)
Aph was 368.7, now 239.25

FL

Destin (DTS)
Eglin Aph was 127.7, now 121.6



One of the transmitter tubes.

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)
Aph was 127.9, now 119.55
Kinston Regional Jetport (ISO)
Aph was 338.0, now 335.55

ND

Fargo Apch (FAR)
Ada/Twin Falley, 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

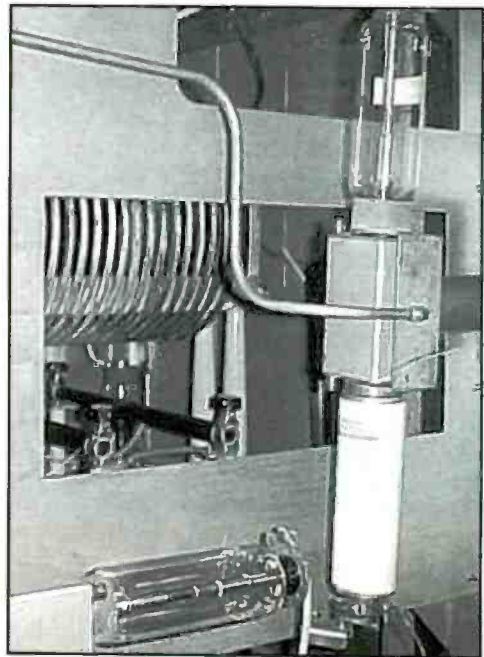
DECOMMISSIONED/DELETED FREQUENCIES

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



The coupler between transmitter and antennas.

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

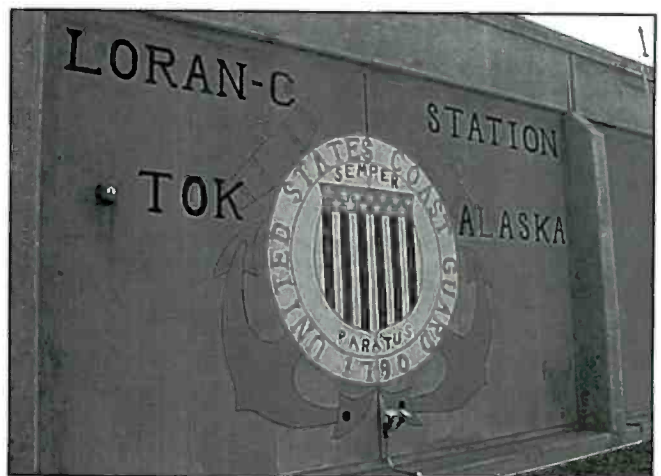
South Woodstock/Woodstock was 01B, now 64CT
Torrington/O and G Heliport was 0N2, now 05CT

DE

Selbyville/Warrington Field was 0N7, now DE27



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 Mulgrew Ranch (33FA)

GA

Sylvania/Wade Plantation Airport
was A00, now GA88

IA

Martelle/Lerchs Airport was 7C0, now 62IA

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 9MI5

MS

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

NE

Beaver City/Hewetts 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 2OA1

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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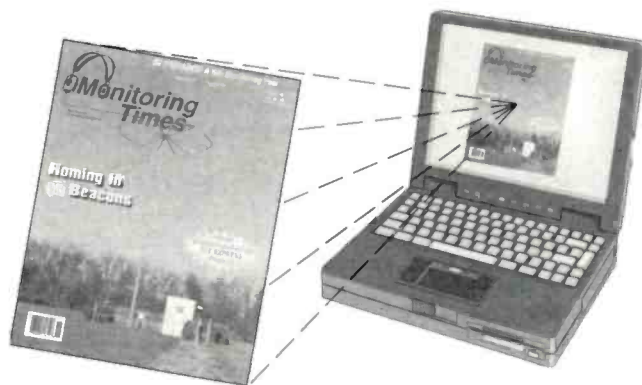
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How To Break The BBC Habit

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:

- 0000 — Spanish Foreign Radio on 15385
- 0000 — Radio Japan via Sackville, Canada on 6145
- 0000 — Dutch Horizons (U.S. Sun.) R. Netherlands 6165 & 9845
- 0000 — Research File (U.S. Mon.) R. Netherlands 6165 & 9845
- 0000 — Music 52-15 (U.S. Tues.) R. Netherlands 6165 & 9845
- 0000 — The Weekly Commentary (U.S. Wed.) R. Netherlands 6165 & 9845
- 0000 — Talking It Over (U.S. Thurs.) R. Netherlands 6165 & 9845
- 0000 — A Good Life (U.S. Fri.) R. Netherlands 6165 & 9845
- 0000 — Aural Tapestry (U.S. Sat.) R. Netherlands 6165 & 9845
- 0030 — Euro quest (U.S. Sun.) R. Netherlands 6165 & 9845
- 0030 — A Good Life (U.S. Mon.) R. Netherlands 6165 & 9845
- 0030 — Dutch Horizons (U.S. Tues.) R. Netherlands 6165 & 9845
- 0030 — Research File (U.S. Wed.) R. Netherlands 6165 & 9845
- 0030 — The Weekly Documentary (U.S. Thurs.) R. Netherlands 6165 & 9845
- 0030 — Roughly Speaking (U.S. Fri.) R. Netherlands 6165 & 9845
- 0030 — Aural Tapestry (U.S. Sat.) R. Netherlands 6165 & 9845
- 0100 — News line (U.S. Mon.-Fri.) R. Netherlands 6165 & 9845
- 0100 — Radio Canada International news — 9755/13670/15305
- 0110 — Canada Today (Tues.-Sat.) with features and sports report — 9755/13670/15305
- Canada Newsweek and Canada Review (Sun.) — 9755/13670/15305
- Maple Leaf Mailbag (Mon.) — 9755/13670/15305
- 0100 — HCJB, Quito, Ecuador — News of the Americas — 9745 & 15115
- 0100 — Deutsche Welle (Germany) News — Daily — 6040/9640/11810
- 0100 — Spanish Foreign Radio on 15385
- 0105 — Deutsche Welle Newslink (Tues.-Sat.) — 6040/9640/11810
- 0130 — Deutsche Welle Insight (Tues.); Man and Environment (Wed.); Living in Germany (Thurs.); Hard to Beat — The World of Sport (Fri.); German by radio (Sat.); Talking Point & Inside Europe (Sun.); Religion & Society and Arts on the Air (Mon.) — 6040/9640/11810
- 0130 — HCJB, Quito, Ecuador — Ham Radio Today (Wed.) — 9745 & 15115
- 0130 — HCJB, Quito, Ecuador — Woman to Woman (Thurs.) — 9745 & 15115
- 0130 — HCJB, Quito, Ecuador — Musica del Ecuador (Fri.) — 9745 & 15115
- 0300 — Deutsche Welle (Germany) News — per 0100 — Daily — 9535/9640/13780/15105
- 0305 — Deutsche Welle Newslink — per 0105 (Tues.-Sat.) — 9535/9640/13780/15105
- 0330 — Feature programs as per 0130 except: Weekend Review Part One and Spectrum (a science program) (Sun.); Weekend Review Part Two, and Arts On The Air (Mon.) 9535/9640/13780/15105
- 0400 — HCJB, Quito, Ecuador — News of the Americas — 9745 & 15115
- 0430 — Radio Netherlands News and Newsline (U.S. Mon.-Fri.) 6165/9590
- 0430 — Radio Netherlands News (U.S. Sat. & Sun.) 6165/9590
- 0435 — Europe Unzipped — Radio Netherlands (U.S. Sat.) 6165/9590
- 0435 — Sincerely Yours — Radio Netherlands (U.S. Sun.) 6165/9590
- 0455 — The Week Ahead — Radio Netherlands (U.S. Sun.) 6165/9590
- 0500 — Dutch Horizons — Radio Netherlands (U.S. Sun. on west coast) 6165/9590
- 0500 — Research File — Radio Netherlands (U.S. Mon. on west coast) 6165/9590
- 0500 — Music 52-15 — Radio Netherlands (U.S. Tues. on west coast) 6165/9590
- 0500 — The Weekly Documentary — Radio Netherlands (U.S. Wed. on west coast) 6165/9590
- 0500 — The Weekly Documentary — Radio Netherlands (U.S. Wed. on west coast) 6165/9590
- 0500 — Talking It Over — Radio Netherlands (U.S. Thurs. on west coast) 6165/9590
- 0515 — From Sapphire to Laser — Radio Netherlands (U.S. Thurs. on west coast) 6165/9590
- 0500 — A Good Life — Radio Netherlands (U.S. Fri. on west coast) 6165/9590
- 0500 — Aural Tapestry — Radio Netherlands (U.S. Sat. on west coast) 6165/9590
- 0500 — Spanish Foreign Radio on 6055
- 0500 — Deutsche Welle (Germany) News — per 0100 — 9670/9785/11985
- 0505 — Deutsche Welle Newslink — per 0105 — (Tues.-Sat.) — 9670/9785/11985
- 0530 — Deutsche Welle Feature programs as per 0130 except: Marks and Markets (business program) (Sun.); Cool (replaces Arts On The Air) (Mon.) — 9670/9785/11985
- 1100 — R. Japan via R. Canada International on 6120
- 1130 — HCJB, Quito, Ecuador — News of the Americas — 12005 & 15115
- 1200 — HCJB, Quito, Ecuador — News of the Americas — 12005 & 15115
- 1200 — Radio Canada International relay of CBC on 9640/15305/17820 — Till 1500
- 1230 — HCJB, Quito, Ecuador — News of the Americas — 12005 & 15115
- 1830 — R. Netherlands News — Sun. — 21590
- 1830 — R. Netherlands News & Newsline — Mon.-Fri. — 21590
- 1835 — Wide Angle — R. Netherlands — Sun. — 21590
- 1900 — Aural Tapestry — R. Netherlands — Sun. — 21590
- 1900 — EuroQuest — R. Netherlands — Mon. — 21590
- 1900 — A Good Life — R. Netherlands — Tues. — 21590
- 1900 — Dutch Horizons — R. Netherlands — Wed. — 21590
- 1900 — The Research File — R. Netherlands — Thurs. — 21590

1900 — The Weekly Documentary — R. Netherlands — Fri. — 21590
 1900 — Roughly Speaking — R. Netherlands — Sat. — 21590
 1930 — Dutch Horizons — R. Netherlands — Sun. — 21590
 1930 — Research File — R. Netherlands — Mon. — 21590
 1930 — Music 52-15 — R. Netherlands — Tues. — 21590
 1930 — The Weekly Commentary — R. Netherlands — Wed. — 21590
 1930 — Talking It Over — R. Netherlands — Thurs. — 21590
 1945 — From Sapphire to Laser — R. Netherlands — Thurs. — 21590
 2000 — R. Netherlands News — Sun. — 21590
 2000 — R. Netherlands Newslines — Mon.-Fri. — 21590
 2005 — Europe Unzipped — R. Netherlands — Sat. — 21590
 2005 — Sincerely Yours — R. Netherlands — Sun. — 21590
 2200 — The World at Six CBC/RCI — Mon.-Fri. on 9755/13670/17695
 2200 — The World This Weekend CBC/RCI — Sat. & Sun. on 9755/13670/17695
 2230 — As It Happens CBC/RCI — Mon.-Fri. on 9755/13670/17695 — Till 2400
 2330 — R. Netherlands News & News line — Mon.-Fri. on 6165 & 9845
 2335 — Sincerely Yours (Sun.) 6165 & 9845
 2355 — The Week Ahead (Sun.) 6165 & 9845

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 China and six and a half per day to Indonesia, although at present, the programming is just a relay of their service for Africa service. Eventually CV will have an Australian production center doing programming for its Asian audience. At this writing, the initial schedule is 0130 to 0700 on **21550** to China (note that this frequency is used by their affiliate in Chile — Radio Voz Cristiana). Also to Indonesia on **21680** from 0030-0400, 0430-0500 and 0530-0800. This schedule will expand significantly as time goes on. Reception reports for Christian Voice-Australia can be sent to: 2 Avian Street, Kunda Park, QLD 4556.

More SW News

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 Wooferton. 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 Babeldaob 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-day 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



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



A Message From Mark Byford, Director, BBC World Service

To All Recent Correspondents,

Yes, it is true. I am a dolt. I am a twit. I am a wiennie. 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 then one so we can navigate scissors easily. Logs are cut into strips and then sorted by country, so be sure to use only one side of the paper otherwise some of your logs won't survive. Also include your last name and state abbreviation after each logging. As always, thanks so much for your continued interest and participation.

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. PP 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 update. (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 Pidgin 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 Alegre 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 ute 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 1244. (Becker, WA) 17890 in CC at 0506. (Foss, Philippines) Voice of Jinling, Nanjing. 5860 in CC to Central Asia at 1235. (Becker, WA) Voice of the Strait. 7280 in CC at 1015. (Newbury, NE)

CHILE — VozCristiana. 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-pops. Abrupt sign off at 2303 without anthem. (Alexander, PA) 2247 with hi-life music and FF talk by man with ID and sign-off anmts at 2258. 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

Abbreviations Used in Listening Post

Table with 2 columns: Abbreviation and Meaning. Includes AA (Arabic), BC (Broadcasting), CC (Chinese), EE (English), FF (French), GG (German), ID (Identification), IS (Interval Signal), JJ (Japanese), mx (Music), NA (North America), nx (News), OM (Male), pgm (Program), PP (Portuguese), RR (Russian), rx (Religion/ious), SA (South America/n), SS (Spanish), UTC (Coordinated Universal Time (ex-GMT)), v (Frequency varies), w/ (With), WX (Weather), YL (Female), // (Parallel Frequencies)

and anmts 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) 0553 in Croatian. Off at 0558. (Newbury, NE)

CUBA — Radio Havana Cuba, 9550 at 0516 with news items in EE. (Newbury, NE)

CYPRUS — 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 1225. 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 anner, talk by man. (Jeffery, NY)

EGYPT — Radio Cairo. 9900 in EE at 2300 with time pips 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 2004. (Jeffery, NY) 17830 with IS at 1245 under Voice of Turkey. (Northrup, MO)

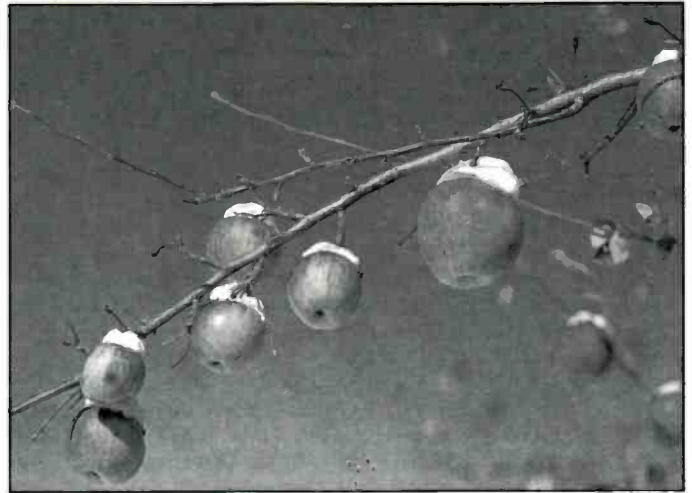
FINLAND — YLE/Radio Finland. 11990 with news in Finnish at 0206. (Miller, WA) 21670 at 0640 with feature on digital TV coming to Finland. (Foss, Philippines)

FRANCE — Radio France Int'l. 17605 at 1712 with "African Media," "Today in France." ID. (Jeffery, NY)

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)



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!

GERMANY — Deutsche Welle, **15275** in GG with live sports coverage at 1918. (Jeffery, NY) **17730** in GG at 1220 and **17760** in AA at 1220. (Northrup, MO) Radio Ecclesia (Angola) via Germany, **13810** at 1846. Talk in PP to **1854** ID and frequency anmt. before off at 1856. 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)

GREECE — Voice of Greece, **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 to Asia. **11730** was much the stronger. (Silvi, OH) KTW, **7455** at 1147 in CC and **9865** in CC at 1017. (Becker, WA)

GUATEMALA — Radio Buenas Nuevas, **4800** with religious programming in SS at 1140. USB needed to defeat "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. (Barton, AZ)

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)

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

INDONESIA — Voice of Indonesia, **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)

IRAN — Voice of the Islamic Republic of Iran, **9635** in EE at 1618 with music and talk, ID and closing at 1627. Also at **1930** on 13730. (Burrow, WA) **13635** in Farsi at 2205. Two men with comments plus AA music. (MacKenzie, CA) 15084 at 0230 in presumed Farsi. (Brossell, WI)

IRAQ — Radio Baghdad, **11787** at 1930 with news, music, ID, comment. (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)

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. (Alexander, PA)

ITALY — RAI Int'l, **11800** in II with pops heard at 0305. (Brossell, WI)

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

0005. (Weronka, NC) **9685** 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, NHK Worldwide." (Brossell, WI) **17810** in Malay at 2236. **17825** in JJ at 2219. **21670** 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 race being called. (Barton, AZ) 9595 in JJ at 1626 two men with pops behind them, later the same with two women. (MacKenzie, CA)

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 1955. (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 Jamahariya, **17725**. Best bet to hear EE news from Libya is now only at 2032-2040. Covered by Moscow in unid. 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 Vilnius, **9875** with news at 0045. (Provencher, ME)

MADAGASCAR — Radio Netherlands relay, **7280** in DD with ID at 0023, 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. **5995** at 0657 in FF with flute and drum music. ID around 0700 and more talk. Fading and becoming quite watery by 0712 as Mali in daylight, but fair before that. (D'Angelo, PA)

MEXICO — Radio Mexico Int'l. **9705** at 2345 with Mexican ballads. (Weronka, NC) Radio Educacion, **6185** with classical music at 0940. (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) VOA relay. **7195** at 0511. (Newbury, NE)

MYANMAR (Burma) — Radio Myanmar. **4725** in unid. language at 1249. (Miller, WA)

NETHERLANDS — Radio Netherlands, **12065** via Russia at 1127. (Newbury, NE)

NETHERLANDS ANTILLES — Radio Netherlands relay, **9845** with "Euroquest" at 0015 (Provencher, ME) **11715** in SS at 2238 and **13700** at 2156 in DD/FF (MacKenzie, CA) 1841 with "Newslines." (Jeffery, NY) **21590** at 2013 with news items. (Newbury, NE)

NEW ZEALAND — Radio New Zealand. **9885** at 1018 to the Western Pacific. (Becker, WA) **11725** at 0650 with songs. (Newbury, NE) **15160** at 2005 with news. ID. (Burrow, WA) **17675** with "In Touch With New Zealand" at 0226. (Jeffery, NY) 0243 with pop tunes. 0300 with weather. ID. (Brossell, WI) 0330. (Barton, AZ)

NICARAGUA — Radio Miskut, **5770** at 2345. Suppressed carrier USB. SS talk, light instrumental music. Off with anthem at 2356. (Alexander, PA)

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) Voice of America relay. **15140/19770** with news at 1135. (Newbury, NE) **15240** with news at 1230. (Brossell, WI)

NORWAY — Radio Norway. **11635** in NN at 0325. (Brossell, WI) 0413 with news in NN. (Miller, WA) **13800** at 0617 in NN. (Foss, Philippines)

PAPUA NEW GUINEA — NBC. **4890** at 0905 with national news in EE Karai Service. Also at 1211 with news, weather. (Becker, WA) Radio New Ireland, **3905** in Pidgin at 1121. (Becker, WA) Radio Northern, Popondetta, **3345** in unid. language at 1114. (Becker, WA) Radio Milne Bay. **3365** at 0854 with music and talk in EE Kundu Service. (Becker, WA) Radio East New Britain, Rabaul, **3385** with island music at 0854. (Becker, WA) Radio New Britain, Kimbe, **3255** with EE DJ at 1225. (Becker, WA) Radio Western Highlands, Mt. Hagen, **3375** with local music at 0856. (Becker, WA) Radio North Solomons, Kieta, **3325** in Pidgin at 1159. (Becker, WA) Radio Manus, Lorengau, **3315** with country-western at 1110. (Becker, WA)

PALAU — Radio Free Asia relay, **9905** with man and woman in CC at 1648. (MacKenzie, CA)

PARAGUAY — Radio Nacional. **9735** in SS at 0933. Music and woman announcer. (Jeffery, NY) 0115 with sports in SS. (Miller, 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 presumed Tagalog at 1215. (Brossell, 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, **7490** at 0952. Into KK at 1000. **9480** at 1000 with IS and into in CC (Becker, WA) **9765** at 0200 via the Vatican! (Provencher, ME) **12000** in EE at 0209. (Miller, WA) Radio Rossii via Magadan, **9530** in RR at 0636. (Becker, WA) Magadan Radio, **7320** in RR at 0948. // **9530**. (Becker, WA) Radio Tikhii Okean, **12070** at 0714 with open carrier prior to a series of opening IDs and anns 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. (Weronka, NC) **17790** in Romanian at 1235. (Northrup, MO)



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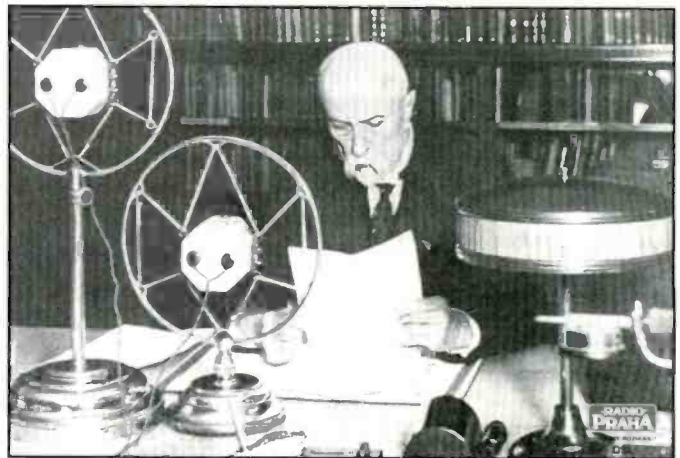
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Fotografía: EDGAR MUNGÍA OLIVER

Radio Mexico International's current QSL. Of the five frequencies listed, only 9705 and 11770 are active. (Thanks, Weronka, NC)



Czechoslovakian President Masaryk broadcasting to the USA in 1932.

RWANDA — Deutsche Welle relay. **7225** in unid. African dialect at 0320. **9765** in unid. African dialect at 0343. (Brossell, WI) **15390** with "Africa Report" at 1929. (Jeffery, NY) **17860** in GG at 2219. (MacKenzie, CA)

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 music 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)

SOLOMON ISLANDS — Solomon Islands Broadcasting, **5020** at 0914 with music and talk. (Becker, WA)

SPAIN — Radio Exterior de Espana. **6055**. Jazz and woman with interviews at 0335. (MacKenzie, CA) **15170** in SS at 1220. (MacKenzie, CA) (Via Costa Rica — Ed)

SINGAPORE — Radio Corporation of Singapore. **6000** in CC with pops at 1440. (Barton, AZ) BBC relay. **9605** at 1634 with news. **9740** at 1640 with sports news. (MacKenzie, CA) **9740** to SE Asia at 1013. (Becker, WA) **9740** at 1105. (Newbury, NE) **15360** at 0246 with UK Top 20. (Foss, Philippines) 0923 with news. (Jeffery, NY)



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



Headquarters of Swiss Radio International in Berne.

SRI LANKA — VOA relay 9645 with news heard at 1637. (MacKenzie, CA) 15250 with address for reports, ID, report on treating wasp bites. (Brossell, WI) Deutsche Welle relay, 15205 in GG at 0230. (Brossell, WI) Radio Free Asia relay, 15175 in unid. language at 2242. (Jeffery, NY)

SWEDEN — Radio Sweden, 9495 in SS at 0205. (Brossell, WI) 18960 in Swedish at 1225. (Northrup, MO)

SWITZERLAND — Swiss Radio Int'l, 17640, via Germany at 1746. Sir Arthur Conan Doyle's wife planned to kill him in Switzerland. (Newbury, NE)

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)

TAIWAN — Voice of Asia, 9280 in CC at 0956. (Becker, WA) Central Broadcasting System, 9630 in CC at 1635. Heavily jammed. (MacKenzie, CA) Family Radio, presumed, 15060 in CC at 2219 with talk. Very poor signal. (Jeffery, NY)

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 anmt 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, Philippines)

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 program on Palestinian history. News, ID and into AA at 1634. (Burrow, WA) 1950 with AA singing. (Brossell, WI)

VATICAN — Vatican Radio, 7305 at 2245 to the Far East. (Provencher, ME) 0315 in SS with "Radio Vaticana" 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, woman in presumed VV. (Wilden, IN) (via Canada, — Ed)

YUGOSLAVIA — Radio Yugoslavia, via

Bosnia, 11870 at 2350 in Slavic language to 2358. Then IS to 0000 EE ID and sign-on by woman, mentioning returning to shortwave after almost a year off the air. Talked about cooperation with Bosnia having made it possible. Then a newscast. At 0028 IS and language change. Announced //6100 and 7230 were not heard. (D'Angelo, PA) 0429 with IS, ID, talk about resumption of broadcasts. (Burrow, WA)

ZAMBIA — Zambia National Broadcasting Corp., 6165 with fish eagle IS at 0242, opening singing at 0252 to man in unid. 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 anmts 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, PA)

ZIMBABWE — Radio Zimbabwe, (tentative) 6045 at 2355 in unid. 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, Nobelsville, IN; Brian Alexander, Mechanicsburg, PA; Robert Brossell, Pewaukee, WI; Pete Becker, Clarkston, WA; Stewart MacKenzie, Huntington Beach, CA; David Weronka, 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, Mentor, OH; Rick Barton, Phoenix, AZ and Marty Foss, Guinayangan, the Philippines. Thanks to each of you! Until next month, good listening!

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“Special
October Theme:
Viruses - How NOT
To Get Them”



(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 victims E-mail address 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 but

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 for 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 (free) account at PicoSearch and reindex your site. If you've got a web presence



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/avcenter/>.

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 LINUX, 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 ute 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.



Somewhere in the columnist’s monitoring station lurks the Ten-Tec RX320. Can you spot it? (Hint - look for the most obvious black box). The radios that glow in the dark are never going to be “retired,” so don’t worry.

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* ute 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 ute monitoring, would appreciate it.

And now, the logs.

Reader's Logs

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).

00000: STATION. Anytown, USA, summary of traffic heard in MODE at 0000 Z (Z), personal comments here (JC)

38: SHR, SN RUDA, CW TFC in offline encrypt TYP (DW)

38: SHR, SN RUDA, CW TFC in offline encrypt MI (DW)

60: MSF, RUGBY, CW Time signal, qte 051.5 +/-1 MI (DW)

61.8: UNID, RN UNID ? RTTY//50/N/85 61.76. Continuous marker "QFB figs," no ID MS (DW)

68.9: DHO38, GN GLUCKSBURG, RTTY//75/N/85 Cct [G32A]. Broadcast state fm CINCGERFLEET to all ships copying broadcast, WX fctst. Msg rptd. MI (DW)

68.9: DH038/1, GN GLUCKSBURG, RTTY//75/N/85 Cct [G32A]. Exercise BALTOPS support channel for Swedish submarine Uppland. TFC unclas an in-clear (DW)

147.3: DDH47, HAMBURG RADIO, RTTY//50/N/85 WX in German, OCC wng in EE MI (DW)

490: E. CORSEN, SITOR/B//100/E/170 WX in FF followed by Nav wngs. MR (DW)

490: U, CULLERCOATS SITOR/B//100/E/170 UK inshore WX forecast. MM (DW)

490: C, PORTPATRICK SITOR/B//100/E/170, WX fctst — UK inshore MM (DW)

518: K, KERKYRA, SITOR/B//100/E/170 NAVTEX. Navwng MM (DW)

518: T, OOSTENDE, SITOR/B//100/E/170 NAVTEX. WX and nav wngs MM (DW)

518: Q, SPLIT SITOR/B//100/E/170 NAVTEX. Shipping fctst. MM (DW)

518: U, TRIESTE SITOR/B//100/E/170 NAVTEX. Nav wng MM (DW)

518: W, VALENTIA SITOR/B//100/E/170 NAVTEX. WX fctst MM (DW)

1396: Speedbird 9 with position and altitude report to Jakarta Radio and is advised to contact Jakarta Center in USB at 1322Z. (CR)

2187.5: UNID, GMDSS ALERT CHANNEL DSC//100/E/170 14 packets in 55 min, 12 safetu, one corrupt, one illegal. Cstms/MRCCs

logged — Oostende, Malin Head, Ijmuiden, Aberdeen, Humber, Yarmouth, Dover. MM (DW)

2570: UNID USCG station at 1502z calling UNID Costa Rican vessel. Col DX

2651: DHJ58, GN GLUCKSBURG RTTY//75/N/170 Single run of "ry's 11/2001z" MM (DW)

3159.5: UNID, SHIP UNID GLOBEDATA Brief call to GW node Goeteburg, response but no QSO. MI (DW)

3264.4: SAB GW NODE GOETEBURG CW Chan free marker (Globe) "SAB". TFC to ship in Globedata. qsx 3159.5 MM (DW)

3444: UNID stn Rptng"V ABYZ DE 6PXJ" over and over. CW, 1130Z. TY

3594: F-SLHFM, Vladivostok, Russia, CW, 1118Z. TY

4100: UNID stn Rptng"HDNA" over and over, CW, 1059Z. TY

4233: The noisy slot machine, AM, 1100Z. TY

4525: 5ST, ASECNA Antan 1615 RTTY 100/400 WX codes (RH2)

4560: M21, Russian Air Defense, pseudo-TS, Russia, CW, 1248Z. TY

4724: GHFS Andrews with 21-character EAM broadcast in USB at 0103Z. (CR)

5091: JSR, E10, Israeli Mossad, USB, 1000Z. TY

5146: CE74, Germany 18.25 ITA2 50/850 "MNC ME MI" with messages in EE for EXERCISE COMPACT GREEN 2001 taking place on German/Polish border. At midnight callsigns changed CE74 to XH51, GY35 to OLP4 and ZL2F to JK3E (PT)

5154: E-SLHFM, somewhere, Russia, or Pips, CW, 1118Z. TY

5277: Panther, 0240 USB w/CG 38C and CG 24C in drug interdiction operation. Confirms freq as Alpha freq. (RP)

5334.5: UNID stn HKT4 sending "CQ DE HKT4", hand-sent CW, 1229Z. TY

5412: UNID stn Rptng "V LA5S DE NH8T" over and over, hand-keyed CW, 1215Z. TY

5547: Northwest 915 with position, altitude report and SELCAL check (FMGK) to San Francisco Radio and is advised to contact Vancouver Center on 135.200 in USB at 1153Z. (CR)

5547: N555KC (Gulfstream IV) report position ESCROW at flight level 410 with EDSEL next reporting position, then advised by San Francisco Radio to contact Los Angeles Center on 132.150 over EDSEL in USB at 0401Z. (CR)

5574: Qantas 26 requests SELCAL check (MRDT) via San Francisco Radio and is advised to 8.867 crossing 140 west in USB at 0523Z. This is a flight from Los Angeles to Auckland. (CR)

5574: San Francisco Radio with ATC clearance for N541SD to Santa Barbara Airport in USB at 0407Z. (CR)

5574: San Francisco Radio with request for N100A (Gulfstream IV) to confirm altitude in USB at 0441Z. N100A advises they are level at 400. (CR)

5574: New Zealand 10 checking-in with San Francisco Radio for SELCAL check (GMBR) and is advised that 3.413 will be secondary and at 140W primary will be 8.867. This is a Los Angeles to Sydney flight that typically contacts San Francisco while on the ground at LAX just prior to departure. (CR)

5600: UNID stn Rptng"V ABYZ DE 6PXJ" over and over. CW, 0932Z. TY

5696: Coast Guard 6028 (HH-60J) with position (568N, 158.34W) and ops norm rept to COMMSTA Kodiak in USB at 0514Z. (CR)

5696: Coast Guard RESCUE 1702 reports flight ops normal at position 54.46N, 1646W via COMMSTA Kodiak in USB at 0529Z(CR)

5696: USCG CAMSPAC Pt. Reyes calling CG 6036 (HH-60J AR&SC CGAS Elizabeth City) with no response in USB at 0347Z. (CR)

5696: USCG CAMSLANT Chesapeake working position and operations reports from drug interdiction units 24C and 38C in USB at 0458Z. (CR)

5787: UNID, French Mil 19.10 ARQ-E 72/400 Idling with betas (22May01). (PT)

5862.5: UNID, U.S. Navy MARS 1018 PACTOR 100/200 clg NNN0DWF and NNN0DWG. Collective calls for Region Four. (MADX)

5932: ETD3 ADDIS ABBA AIR RTTY//50/N/350 Marker "zcze qjh ry's nnnn" then cct [VHA] to Djibouti. Met TFC, svc ref to [HVA] TFC. Offair 2148z. MM (DW)

- 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!(RH2)
- 6496.4: CFH. CANFORCE Halifax 0908 FAX 120/576 w/surface analysis chart. (MADX)
- 6501: COMMSTA Chesapeake (NMN) with VOBRA maritime WX broadcast in USB at 0404Z. (CR)
- 6640: Hawaiian 98 discussing malfunc indic on #3 engine start valve and #2 fuel tank gauge with company in USB at 0507Z. (CR)
- 6676: Sydney VOLMET (VJN385) 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 (RCWE6N) 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 VOLMET 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
- 6826: V02, Atencion Numbers Station 0902 AM w/YL/SS/5FGs(x1) already in progress. (MADX)
- 6836.7: N4NLH: Baumholder, Germany 10.45 Packet Lithuanian NCS working various stations in CE2001 exercise (PT)
- 6900: The Russian Man numbers, Russian Intelligence, S06, already in progress. AM, 1231Z. TY
- 6912: VLB2, E10, Israeli Mossad, USB, 1145Z. TY
- 6959: LP, British MI6, Cyprus, USB, 1200Z.:/9251//11545 kHz TY
- 6989.9: UNID, France?? 18.201TA2 50/400 Sends "CECI UNE EMIS- SION DE CALORIE DESTINEE AU RELAGE VOTRE RECEP- TEUR" several times, then shuts down (PT)
- 7019: The Russian Man numbers, without ENIGMA code, AM, 1104Z. TY
- 7324: UNID stn Rptng "CWS4" over and over, CW, 0928Z. TY
- 7332: FTJ, E10, Israeli Mossad, USB, 1130Z. TY
- 7337: LP, British MI6, Cyprus, E03, USB, 1300Z//9251//12603 kHz. TY
- 7358: FTJ, Israeli Mossad, E10, USB, 1215Z. TY
- 7864: UNID stn 3SP w/V and CQ marker, hand-sent CW, 0607Z. TY
- 7965.7: N3NRN, Baumholder, Germany 07.24 Packet Rumanian(?) net control station with CE2001 TFC working D1CSI and C9CLA/LO. Also mentions two other freqs, F31 - 7990 and F32 - 9960 (PT)
- 8043: RFFEDFA, L Hradiste 19.20 ARQ-E 72/400 BRIGAMECA UNE HRADISTE with TFC in FF to RFFGAC/REGINF UN SAR- REBOURG, info to RFFGDC/BRIGAMECA UNE CHALONS EN CHAMPAGNE on UFA cct. Corresponding UAF cct on 9212.1 or 10498.1. (PT)
- 8043: RFFEDFA, French Mil 18.50 ARQ-E 72/400 Service TFC and CdeV to RFFEDCS and SOUGE via UFA cct (PT)
- 8043: UNID, UNID FF Mil 1814 Arq-E 72/400 This freq normally FQPTA at E3/200(RH2)
- 8136: M08a, The Cuban Cut CW numbers, DGI, already in progress, 1105Z. TY
- 8294: UNID marine net (vy weak) at 2100z, presumed to be south- bound Il. see www.boatersenterprise.com Col DX
- 8300: The New Star Radio, Taiwan, AM, 1200Z. TY
- 8335.5: DRHK, (FGS MOSEL, TENDER A-512): 0012 USB w/DHJ- 59 (German Navy, Wilhelmshaven) in voice and RTTY traffic. (RP)
- 8352: UNID, SHIP UNID GLOBEDATA TFC to GW node Goeteburg/SAB AE (DW)
- 8375: Chinese female numbers, Chinese Intelligence, Beijing, China, V22, AM, 1300Z. TY
- 8418: IAR, ROME RADIO CW Chan free marker "IAR" MM (DW)
- 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, MARIUPOL RADIO CW Chan free marker "USU" MM (DW)
- 8425.5: HEC28, BERN RADIO CW Chan free marker "HEC" MM (DW)
- 8426.5: VCT, GW NODE NEWFOUNDLAND CW Chan free mark- er (Globe) "VCT." Wkng ship in Globedata. MM (DW)
- 8428: NMN, USCG PORTSMOUTH CW Chan free marker "NMN" MM (DW)
- 8429.5: IDR4, IN ROME RTTY//75/N/850 CARB "IGJ44 /IGJ42 /IGJ43 /IDR2 /IDR3 /IDR4" Chan IDR3 busy. (DW)
- 8431.5: UAT, MOSCOW RADIO CW Chan free marker "de UAT" MI (DW)
- 8434.5: SAB, GW NODE GOETEBORG CW Chan free marker (Globe) "SAB." Wkng ship in Globedata. MM (DW)
- 8435: VCT, GW NODE NEWFOUNDLAND CW Chan free marker (Globe) "VCT" MM (DW)
- 8435.5: OST40, OOSTENDE RADIO CW Chan free marker "OST" MM (DW)
- 8439.2: PBC38, DN GOEREE ISLAND RTTY//75/N/850 CARB MM
- 8453: FUG, FN LA REGINE RTTY//75/N/850 Marker "FAA(A) de FUG ry's sg's figs" MI (DW)
- 8464: LP, British MI6, Cyprus, USB, 2200Z. TY
- 8495: SLHFM-F, Vladivostok, Russia, CW, 0720Z. TY
- 8503.9: NMG, USCG NEW ORLEANS FAX//120/576/N/800 Tropical sfc anal. 0630 schedule, too fuzzy for legibility. MI (DW)
- 16105: S84, Swed Embassy Wash. DC 1153 MIL-STD 188-141A/mod MIL-STD 188-110A wkg S12: Swed Embassy Bogota. (MADX)
- 19131: ATLAS, DEA Comms Center Cedar Rapids 1504 USB wkg FLINT411: DEA unit. (MADX)
- 8506: XSX, Chi-lung rdo TAI 1030 CW WX EE for Taiwanese waters (ML)
- 8541: A9M, GW NODE BAHRAIN CW Chan free marker (Globe) "A9M." TFC to ship in Globedata MF (DW)
- 8549: UCE, ARKHANGELSK RADIO SITOR/A//100/170 Chan free marker with imbedded "ky" in bursts. MM (DW)
- 8551.5: CTP PN LISBON RTTY//75/N/850 Marker "NAWS de CTP qsx 04 08 12 16 MHz" MM (DW)
- 8588: UNID, The noisy slot machine, AM, 1100Z. TY
- 8594: SAB, GW NODE GOETEBURG CW Chan free marker (Globe) "SAB" and/or TFC in Globedata. qsx 8352 MI (DW)
- 8597: HEC, GW NODE BERN CW Chan free marker (Globe) "HEC" MM (DW)
- 8625.3: GYU, RN GIBRALTAR VFT// 2 chan fleet broadcast vft on USB MM (DW)
- 8625.9: GYU, 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)
- 8638.5: DAO12, KIEL RADIO CW Chan free marker MI (DW)
- 8640.3: GYA, RN LONDON, VFT//4 chan fleet broadcast vft on USB MM (DW)
- 8641: SYN2, E10, Israeli Mossad, USB, 2145Z. TY
- 8642.1: GYA, 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 qsx 8 mhz ch 3 4 8 k" MI (DW)
- 8665: XSG, SHANGHAI RADIO, CW Marker "CQ de XSG pls up 366 366 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)

8703.5: UNID, The noisy slot machine, AM, 1100Z. TY
8779: ZSC, Capetown R 0633 USB TFC with USCG Cutter Sherman now on show in Capetown after rescue tow of 33,000 ton car carrier "Modern Drive" off East London. Sherman replies on 8255 kHz (RH2)
8828: Honolulu Radio VOLMET (KVM70) with aviation WX broadcast in USB at 0532Z. (CR)
8834: 008. ARINC JOHANNESBURG HFDL// on USB. SPDUs MM (DW)
8867: New Zealand 55 with SELCAL check via San Francisco Radio in USB at 0704Z. (CR)
8867: Qantas 58 with position report to Brisbane Radio and is advised to contact Brisbane Center on 126.500 in USB at 0603Z. (CR)
8951: Air Canada 898 with position and altitude report to Tokyo Radio in USB at 1122Z. (CR)
8971: 804 with H.F. radio check via WESTERN SKY (USN comms) in USB at 0116Z. (CR)
8992: GHFS Hickam with 28-character EAM message broadcast in USB at 0531Z. (CR)
9048: 5YE, NAIROBI MET RTTY//100/N/850 Met TFC. Poor copy AE (DW)
9048: 5YE NAIROBI MET RTTY//100/R/850 Met TFC. Poor copy. Spur of 9041 MR (DW)
9066.1: F9S, Prague, Czech Rep. 10.10 FEC-A 192/850 French emb with 5-lg TFC to Paris (PT)
9076.7: UNID. FF PARIS ? ARQ/E3//192/E/400 8rc. Betas. No app TFC thru 2121z MR (DW)
9110: NMF, USCG BOSTON FAX//120/576/N/800 Sat pix N/Atlantic. Sfc analysis. All slightly fuzzy MI (DW)
9110: NMF: USCG COMSTA Boston 2146 FAX 120/576 w/surface analysis chart showing U.S. East Coast. (MADX)
9115: M08a, The Cuban cut CW nbrs, DGI, in progress, 1018Z. TY
9130: EZI, E10, Israeli Mossad, USB, 2100Z. TY
9153: The Cuban cut CW numbers, DGI, M08a, in progress, 1004Z. TY
9219: TCS, E05, AM, 2100Z//10527kHz. TY
9238: M08a, The Cuban cut CW numbers, DGI, in progress, 1032Z. TY
9239: M08a, The Cuban cut CW numbers, DGI, in progress, 1015Z. Similar but non-parallel transmission heard on 9323kHz. TY
9247.3: FJY2, DTRE Kerguelen I 1235 Arq-3 200/400 Idling (RH2)
9251: LP, British MI6, Cyprus, USB, 2200Z//7337//12603kHz. TY
9323: M08a, The Cuban cut CW numbers, DGI, in progress, 1015Z. Similar but non-parallel transmission heard on 9239kHz. TY
9725: The New Star Radio, Taiwan, AM, 1200Z. TY
9963.7: N3NRN, Baumholder, Germany 12.15 Packet Rumanian(?) net contrl stn with CE2001 TFC working ASCHR (Croatia?) (PT)
10116.9: BAF4, BEIJING MET FAX//120/576/N/800 Weak/hazy chart. MF (DW)
10126: M08a, The Cuban cut CW numbers, DGI, in progress, 0907Z. TY
10155: BVG, prob Chilean Navy 0005 MIL-STD 188-141A/LSB clg UNID. (MADX)
10178: PIT, Estonia? 18.35 ITA2 75/850 Calling ESQ with INT ZBZ. Calls returned by ESQ. (PT)
10217: UNID, French Mil 08.45 ARQ-E 72/400 Idling with betas (PT)
10260: RFGW, Paris, France 14.55 FEC-A 192/400 5-lg TFC to F9S, Prague embassy (PT)
10261.5: UNID, PICC// 10261.510. On standby. No app TFC thru 1200z MF (DW)
10284.7: RFTJ, Dakar, Senegal 210 ARQ-E3 192/400 CdeV to self relayed on JDJ Libreville — Dakar cct (PT)
10346: M08a, The Cuban Cut CW numbers, DGI, in progress. 1120Z. TY
10360: SAB, Gothenburg, Sweden 18.45 ARQ Marker tape with CW ID (PT)
10361.5: SAB, Gothenburg, Sweden 18.45 ARQ Marker tape with CW ID (PT)
10426: LP, British MI6, Cyprus, USB, 2200Z//6959//11545kHz. TY
10446: M08a, The Cuban Cut CW numbers, DGI, in progress, 1015Z. Similar but non-parallel transmission heard on 10346kHz. TY
10446: M08A, Numbers Station 1111 CW 5FGs (cut) already in progress. 16wpm. (MADX)
10482.3: RFFIC, Paris, France 196 ARQ-E3 100/400 TEEC ROYALE with unit location info to RFVIZC, RFVITT - TOUS SITRAM on IRE, Paris — Reunion cct (PT)
10498: UNID, French Mil 19.40 ARQ-E 72/400 Idling overnight, still on air. No TFC sent yet (PT)
10527: TCS, E05, USB, 2200Z//9219kHz. TY
10583: TCS, E05, USB, 2100Z//11580kHz. TY
10722: DRHF, (FGS ALSTER FLOTTENDIENSTB, A-50, INTELLIGENCE SHIP): 0034 USB w/DHJ-59 in voice and RTTY. (RP)
10790.2: N3NRN, Baumholder, Germany 10.30 Packet Romanian NCS working various stations in CE2001 exercise (PT)
10858: M08a, The Cuban Cut CW numbers, DGI, in progress, 1015. TY
10873.7: RFFIC, Paris, France 19.10 ARQ-E3 100/400 Message previously sent to Reunion on IRE cct being relayed back to Paris on REI, Reunion, Paris cct for RFFHIFLR (RFVIFLR) — FS Floreal (PT)
10963.3: A3CBU, Bulgaria 09.33 ITA2 45.5/425 Calling N6NGE, also uses ARQ (PT)
11051: New York Radio VOLMET (WSY70) with aviation WX broadcast in USB at 0500Z. (CR)
11175: REACH 165 with HF radio check via GHFS Elmendorf in USB at 0330Z. (CR)
11175: RULER 64 (C-141) with p/p via GHFS Elmendorf to Hickam Metro for 0800Z arrival WX in USB at 0437Z. (CR)
11175: REACH 165 with HF radio check via GHFS Elmendorf in USB at 0330Z. (CR)
11175: RULER 64 (C-141) with p/p via GHFS Elmendorf to Hickam Metro for 0800Z arrival WX in USB at 0437Z. (CR)
11175: KING 02 (C-130) with p/p via GHFS Elmendorf to DSN 638-xxxx for ACCLIMATE advising of completion of AR and low level work in USB at 0448Z. KING 02 also advised of multiple malfunctions with aircraft including engine oil lights not functioning. (CR)
11175: REACH 9023 (C-5) with p/p via GHFS Elmendorf to TRAVIS CP estimating the blocks at 0735Z and alpha-3 for engine write-up followed by p/p to Travis Metro for arrival WX in USB at 0454Z. (CR)
11175: REACH 201 with HF radio check via GHFS Elmendorf in USB at 0516Z. (CR)
11175: REACH 6002 with p/p via GHFS Offutt to HILDA METRO for 0400Z arrival WX at Charleston followed by p/p to Charleston CP advising inbound and est. blocks 0410Z in USB at 0142Z. (CR)
11175: REACH 8220 with p/p via GHFS Hickam to Travis CP advising inbound and est. blocks at 0420Z followed by p/p to Hickam Metro for arrival WX at Travis in USB at 0200Z. (CR)
11175: RAIDER 815 (C-130) with HF radio check via GHFS Hickam in USB at 0205Z. (CR)
11175: NAVY YH538 with p/p via GHFS Hickam to Hickam Metro for arrival WX at Kanohe MCAF in USB at 0215Z. (CR)
11175: REACH 6147 (tail #60147, C-141) with p/p via GHFS McClellan to Hickam AMCC with offload info followed by p/p to Hickam Metro for 1515Z arrival WX in USB at 1247Z. GHFS Yokota tried p/p but QSB and QRN prevented so handed to McClellan. (CR)
11175: GHFS Offutt with EAM broadcast repeated five times in USB at 0251Z. (CR)
11175: ICER 22 calling MAINSAIL with no response in USB at 2332Z. (CR)
11175: REACH 9061 (C-17) with p/p's via GHFS McClellan to HILDA WEST (ID'd as WEST SAIL) and HILDA Metro to advise of arrival and receive WX for 0630Z arrival WX at KNKX (Miramar) in USB at 0335Z. (CR)
11175: REACH 7046 with HF radio check via GHFS Puerto Rico in USB at 0259Z. (CR)
11175: SUMMIT 23 with p/p via GHFS Anderson to Anderson Metro for 0800Z arrival WX at PKWA (Kwajalein, Marshall Islands, Bucholz AFB) followed by p/p to PKWA Base Ops advising of ETA in USB at 0539Z. (CR)
11175: AIREVAC 6165 (tail #60165, C-141) with multiple p/p's via GHFS Hickam to HILDA WEST (CR)
11175: SAM 201 with p/p via GHFS Offutt to Elmendorf Metro for

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 Offutt 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 (Maxwell 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 pax 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: EARL 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 this 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 (AMCC) 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)

11214: Shadow 91, (UNIDentified): 0031 w/Trenton Military in pp w/Shadow Ops querying status of Shadow 92. (RP)

11226: REACH 50 (unclear on call) with ALE initiated HF radio check via GHFS Hickam in USB at 0331Z. (CR)

11232: CW6X with p/p via Trenton Military to unknown station followed by aero WX forecasts for KNIP (Jacksonville) and KCOF (Patrick) provided by Trenton Military in USB at 0406Z. (CR)

11232: 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)

11232: SHADOW 38 with p/p via Trenton Military to unknown station in USB at 0437Z. (CR)

11244: CORRUGATE with three 28-character EAM strings broadcast multiple times during comms exercise in USB at 0155Z. (CR)

11244: RENCO (sounds like) calling SKYMASTER with message of one group, "NGY9" and requests acknowledgement from RACE CAR in USB at 0252Z. (CR)

11244: GHFS Andrews with 20 character EAM broadcast in USB at 0256Z. Andrews signed as Offutt. (CR)

11244: GHFS Andrews with 28-character EAM broadcast in USB at 0332Z. (CR)

11250: GHFS Offutt with ALE initiated voice HF radio check via GHFS McClellan in USB at 0518Z. (CR)

11282: Northwest 921 cleared by ATC to maintain 330 until 2353Z, then climb to 350 via San Francisco Radio in USB at 2348Z. (CR)

11282: NAVY YD763 (P-3C, VP-4) with position and altitude report (block 180 to 220) to San Francisco Radio in USB at 0306Z. (CR)

11282: 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 0406Z. (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 0406Z. (CR)

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

11282: NAVY MS503 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 0057Z. (CR)

11282: REACH 7028 reports level at 370 to San Francisco Radio in USB at 0103Z. (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 on 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 8.843 in USB at 0402Z. (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)

11342: 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)

11384: SUMO 92 with altitude and position report (33.42N, 170E) to San Francisco Radio in USB at 1112Z. (CR)

11384: New Zealand 36 with position and altitude report to San Francisco Radio in USB at 1246Z. (CR)

11384: Pacific 303 with position and altitude report to San Francisco Radio in USB at 1324Z. (CR)

11384: Qantas 50 (Nagoya to Cairns) with position report and SELCAL (DKFM) check via San Francisco Radio in USB at 1451Z. (CR)

11384: Japan Air 88 (Japan to Honolulu) with position report (34N, 170E) via San Francisco Radio in USB at 1505Z. (CR)

11384: Philippine 103 (Honolulu to Manila?) cleared by ATC to climb to 360 via San Francisco Radio in USB at 1506Z. (CR)

11384: 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)

11384: SWORD 03 reporting level at 290 to San Francisco Radio in USB at 1519Z. (CR)

11384: Qantas 50 cleared by ATC to deviate 30 nautical miles left of track due WX via San Francisco Radio in USB at 1521Z. (CR)

11384: Japan Navy Alpha flight cleared to flight level 230 via San Francisco Radio then advises level at 230 in USB at 1413Z. (CR)

11384: Japan Navy Bravo flight requesting flight level 230, then cleared by San Francisco Radio to 230 in USB at 1414Z. (CR)

11387: Bangkok VOLMET (THA) with automated aero WX and forecast in USB at 1142Z. (CR)

11387: Sydney VOLMET (VJN385) with aeronautical WX observations in USB at 0503Z. (CR)

11387: Sydney VOLMET (VJN385) with automated aviation WX broadcast in USB at 0503Z. (CR)

11396: Korean Air 671 with position and altitude report (370) to Manila Radio in USB at 1200Z. (CR)

11396: EVA 6238 with position, altitude report and SELCAL check (HKER) via Jakarta Radio in USB at 1202Z. (CR)

11396: Qantas 71 with position, altitude report and SELCAL check (LQBF) via Jakarta Radio in USB at 1203Z. (CR)

11396: Qantas 16 with SELCAL check (CEAB), position and altitude report to Jakarta Radio in USB at 1252Z. (CR)

11396: Qantas 86 with position and altitude report to Manila Radio in USB at 1256Z. (CR)

11396: Speedbird 15 with pos report to Jakarta Radio and adv by Jakarta to contact Jakarta Center on 125.700 in USB at 1400Z. (CR)

11396: Qantas 6 with request for flight level 370 via Jakarta Radio in USB at 1401Z. (CR)

11396: Brisbane Radio advising Qantas 52 unable to grant altitude change, but two minutes later SELCALs 52 and clears them to flight level 370 in USB at 1411Z. (CR)

11429: GBR, prob Chilean Navy 2340 MIL-STD 188-141A/LSB wkg KJD w/ALE and RACAL SKYFAX "ack" burst. Other stations include ASI, HLA, ROO, TAC. (MADX)

11430: The New Star Radio, Taiwan. AM, 1200Z. TY

11432: M08a, The Cuban Cut CW numbers, DGI, in progress, 0814. TY

11436: KXPL, UNID CW, "3YM4 de KXPL ar" then steady carrier MI (DW)

11461.7: RFVI, FF Le Port 1010 ARQ-E3 100/400 non protege msg re EXERCICE YLANG (land and sea exercise held on largest of Mayotte's islands) cct IMB (ML)

11483: RFGW, Paris, France 10.10 FEC-A 192/400 Flight info from CENTRANSFAP VILLACOUBLAY to F9S, MILFRANCE PRAGUE on PGE cct (PT)

11483: P6Z, Paris, France 13.45 FEC-A 192/400 Service message to F9S, Prague embassy (PT)

11518.2: RFFAB, Paris, France 100 ARQ-M2 200/400 Ch A: 5-lg TFC to RFFVAY. Sarajevo on FDX cct. (PT)

11545: LP, British MI6, Cyprus. USB, 2100Z//6959//9251kHz. TY

11565: EZI, E10, Israeli Mossad. USB, 2130Z//13533kHz. TY

11580: TCS, E05, USB, 2100Z//10583kHz. TY

12090.2: PROVENCE, France 19.15 ARQ-E3 192/400 CdeV to self relayed on AFL, Dakar — Paris cct (PT)

12093: M08a, The Cuban cut CW numbers, DGI, in progress, 1310Z. TY

12221.8: UNID, Bulgaria? 150 ASCII 75/500 Sends "WIG ZAN PSE ZAL 14334." ZAL frequency changes to 13494, 11175 and 13440 before they finally get good contact. Can hear, but not decode, WIG on these frequencies. (PT)

12223: E10, Mossad Numbers Station 2245 AM w/CIO2. //13921// (MADX)

12228.2: RFFSYRA, Mostar, Bosnia and Herzegovina(?) 090 ARQ-E3 200/400 ZNR message to self followed by "BANDE D ESSAI" with RYRYs and LE BRICK. No circuit ID. RFFSYRA previously logged as COMDETAIR MOSTAR (PT)

12376: CIO2, E10, Israeli Mossad, USB, 1345Z. TY

12505: XUAT9, TH Pamela Briz 0948 ARQ msg and XUAT9 s/off to Vladivostok (ML)

12510: UEIU, RTM Kaltan 1115 ARQ w/54717 UEIU log on at TFC to Nakhodka (ML)

12510: UEKI, M/V Nadezhdinskij 1017 ARQ TFC headed NADEZHDINSKIJ/UEKI to Nakhodka, UEKI log off (ML)

12514: UHOU, SPB Okha 0957 ARQ TFC to unkwn, 53854 UHOU log off (ML)

12526.5: 9MR, RMN Johor Baharu 0930 RTTY 50/850 ID tape 9MR 5/11/15 RMMJ MRB RYs SGs and 5LG msgs to various ships (ML)

12531.6: 9MR, RMN Johor Baharu 0950 RTTY 50/850 id tape 9MR 5/11/15 RMMJ MRB RYs SGs and 5LG msg for RMNS Perdana (missile boat) (ML)

12561.5: UBSX, M/V Brat'ya Stoyanovjy 0842 RTTY 50/170 ship & crew msgs to Kaliningrad (ML)

12567: UGQW, M/V Professor Keritchev 0947 ARQ selcal seq of PAQE and msg to unkwn prob Khabarovsk. UGQW log on/off (ML)

12570: Unid, RTMS Geya 1026 ARQ svc msg to Nakhodka (ML)

12570: UCLX, TR Tatarstan 1007 ARQ crew msgs to Nakhodka (ML)

12570: UDDF, PR Evgenij Zotov 0949 ARQ w/UDDF log on and crew msg to unkwn (ML)

12570: UEGF, RTMS Aerohaft 1117 ARQ TFC to unkwn, UEGF log on/off (ML)

12570: UHNT, TH Sibirskij-2115 1025 ARQ op chat w/unkwn (ML)

12570: UIYC, BATM Kapitan Maslovets 1119 ARQ crew msgs to Nakhodka (ML)

12580: WLO at 1515z w. CW id and data idle. Col DX

12603: LP, British MI6, Cyprus. USB, 2200Z//7337//9251kHz. TY

12736: CIO2, E10, Israeli Mossad. USB, 2145Z//13921kHz TY

12740: ZLA, GW Awanui 0750 CW ID and ARQ tuning (ML)

12746: JJC, Tokio R 0830 fax 60/576 JJ Nx/paper — clear text (RH2)

12789.9: NMG, USCG NEW ORLEANS FAX//120/576/N/800 36hr high seas (textual) fest. Blurred. MS (DW)

13060: CLA at 1520z w. CW cq./no.4/22390 nm at 1540z w. CW id and data idle. Col DX

13110: WLO with robot voice info, WX and TFC list broadcast this 4th of July. refers to www.wloradio.com for full info. Col DX

13188: EHY, Madrid, Spain 18.48 USB/CW Voice marker that doesn't sound like Spanish to me, with periodic CW-ID (PT)

13215: REACH G3 with ALE initiated p/p to Rota Metro for arrival WX at OKAS in USB at 0340Z. (CR)

13215: GHFS Puerto Rico with ALE established voice HF radio check via GHFS Andrews in USB at 0424Z. (CR)

13257: Trenton Military coordinating possible SAR with RESCUE 336 being advised to search track to 59.55N and 113.52W and to look for possible campfire in USB at 0409Z. Rescue 336 advises Trenton they will RTB Winnipeg upon completion of mission. (CR)

13215: REACH 9191 with ALE initiated p/p to HONOLULU WEST that is aborted due deterioration in prop USB at 0447Z. (CR)

13282: Auckland VOLMET (ZKAK) with aeronautical WX observations in USB at 0452Z. (CR)

13282: Honolulu VOLMET (KVM70) with aeronautical WX observations in USB at 0455Z. (CR)

13288: Malaysia 93 with position and altitude report to San Francisco Radio in USB at 0027Z. (CR)

13345: Unknown — two EE speaking OMs passing traffic with reference to fuel oil, engine parts and cranks in USB at 0328Z. (CR)

13348: Continental 73 with p/p via San Francisco Radio to Continental Dispatch to provide position and fuel in USB at 2124Z. (CR)

13354: N900LA (Gulfstream 1159A) with position and altitude report to San Francisco Radio in USB at 0210Z. (CR)

13354: United 34 with position report and SELCAL check (FPBR) via San Francisco Radio and is advised that secondary will be 5.574 in USB at 0231Z. (CR)

13354: N978E, (W.Gates Lear 36A) with position and altitude report (440) to San Francisco Radio in USB at 0410Z. (CR)

13374: V02a, The Cuban "atencion" numbers, DGI, in progress, vly low modulated AM, 0703Z. Suddenly female ann off in progress at 0713Z and carrier off at 0715Z. TY

13430: VTG, IN MUMBAI ? CW TFC in offline encrypt (4 fig grps) to VWGZ (Collective csgn). Hvy QRM. Spurious? MF (DW)

13464.7: N2NCA, Baumholder, Germany 11.50 Packet Canadian(?) net control station with CE2001 TFC (PT)

13479.7: UNID, FF PARIS ? ARQ/342//200/E/400 8rc. 2 chan tdm. Chan A: B: idling on rq's. No app TFC 1535z when faded (DW)

13510: CFH, CF HALIFAX FAX//120/576/N/800 Sat pix — Canadian/US E Coast/N Atlantic. Near end stuck in repeat of scan line (DW)

13510.1: CFH, CF HALIFAX RTTY//75/N/850 Met TFC MF (DW)

13528: F and K- SLHFM, Vladivostok and Peteropavrovsk Kam., Russia, CW, 0008Z. TY

13530: AFS, USAF AWS OFFUTT RTTY//75/N/850 Met TFC. KAWN MR (DW)

13533: EZI, E10 Israeli Mossad, USB, 2130Z//11545kHz. TY
13550.5: ZKLF, AUCLAND 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 fcst in Chinese script — characters blurred, 2135z sfc prog. MF (DW)
13908: TCS, E05, AM, 1200Z//15732kHz. TY
13921: CIO2, E10, Israeli Mossad, USB, 2006Z//12736kHz. TY
13944: UNID, CIS Mil 1244 81-81 81/200 (RH2)
13951.5: HBD20, MFA Berne 0530 ARQ 5LG msg to unkwn, 0540 HBD20/4 s/off (ML)
13961.5: 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 (? QTH) 0450 ARQ-E3 100/400 non protege EXERCICE YLANG msg to RFVI Le Port, cct MB1 (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 (DW)
14366.9: BAF8, Beijing Meteo 0847 FAX 120/576 Weak sigs — lines feint!(RH2)
14383: NNN0TWT, (MARS, Citra FL): 0001 USB w/morale pp w/NNN0CMV (USN vessel). (RP)
14487: LP, British MI6, Cyprus, USB, 1200Z//11545//15682kHz. TY
14487.2: RFFTB, Paris, France 18.40 ARQ-E3 200/400 5-lg TFC to RFFVAEA, Dahrn, via FDX cct (PT)
14718.3: RFHI, French Forces Noumea 1138 ARQ-E3 100/400 w/two 5LG msgs on ckt [HIJ]. (MADX)
14719: OST53, Oostende Radio 1041 SITOR-B 100/170 w/UNID station. Instructions for reading mailbox. (MADX)
14750: The English Man numbers, E06, Russian Intelligence, Russia, already in progress. Ended with "00000", AM, 2105Z. TY
14750: Abnormal SYN2, E10, Israel, call up only for over 30 mins, USB, 1333Z. TY
14773.2: N2NCA, Baumholder, Germany 100 Packet Canadian NCS working various stations in CE2001 exercise (PT)
14820.7: UNID FAPSI 1725 Crowd36 Mazielka calls (RH2)
14830: UNID, 1135 81-81 40.5/500 (MADX)
14848: BASE0, Turkish Army 0221 MIL-STD 188-141A/USB w/sounding call. (MADX)
14857.7: kdakrfr, MFA Cairo 1625 ARQ Embassy Circular(RH2)
14866: Abnormal VLB2, E10, Israel, call up only for over 30 mins, USB, 1335Z. TY
14866: E10, Mossad Numbers Station 2248 AM w/VLB2. (MADX)
14866: VLB2, Mossad? 1508 USB YL/EE mechanical repeats — strange accent on BRAVO(RH2)
15001.7: DGD, Algiers, Algeria 09.30 Pactor 200/200 Relaying message in FF from Annaba (ANA) on cct CTR (to Constantine?) (PT)
15016: SIGONELLA, Scope Command Sigonella 1632 USB w/2 EAMs. (MADX)
15388: The New Star Radio, Taiwan, AM, 1200Z. TY
15615: AXI35, Darwin Meteo 0843 fax 120/576 Weak sigs -lines feint! (RH2)
15633.3: HMF26, Pyongyang, N. Korea 10.12 ITA2 50/244 KCNA with report in EE about nuclear reactors (PT)
15682: LP, British MI6, Cyprus, USB, 1200Z//14487//16084kHz. TY
15851: FAAZLA, ARTCC Los Angeles 1309 MIL-STD 188-141A w/sounding call Also at 1409. (MADX)
15898: P6Z, Paris, France 13.25 Fec-A 192/400 Calling Z4D, Nouakchott embassy, with RY's (PT)
15920: CFH, CANFORCE Halifax 1606 BAUDOT 75/790 w/call tape. (MADX)
15980: EZI, E10, Israeli Mossad, USB, 2100Z//11565//13533kHz. TY
16018.7: UNID, EGYPTIAN DIPLO SITOR/A//100/E/170 Opchat in AA(ATU80) and s/off MF (DW)
16035: JJC, KYODO TOKYO FAX//60/576/N/800 Item in Japanese script DP (DW)
16084: LP, British MI6, Cyprus, USB, 1200Z//14487//15682kHz. TY
16111: HBD20/3, Bern, Switzerland 09.40 ARQ 5-lg TFC to Teheran emb (PT)
16120: GYU, Royal Navy Gibraltar 1917 BAUDOT 75/810 w/test tape. (MADX)
16120: GYU, Gibraltar 09.37 ITA2 75/850 "DE GYURY...RY TEST TEST TEST.....KILO" (PT)
16135: KVM70, HONOLULU MET FAX//120/576/N/800 Sfc analysis. Good pix PF (DW)
16160.5: UNID, 2315 USB w/voice scrambler. (MADX)
16181: S86, Swedish Embassy Mexico City 0009 MIL-STD 188-141A/188-110A wkg S91: Swedish Embassy Lima. (MADX)
16183: CA2, prob Chilean Navy 0001 MIL-STD 188-141A/LSB wkg UNID. At 0002, TAC clg ASI. (MADX)
16188.5: UNID, British FCO 1004 PICCOLO-12 encrypted. (MADX)
16188.5: UNID, 1016 PICCOLO-12 (MADX)
16256.7: UNID, EGYPTIAN DIPLO SITOR/A//100/E/170 Op chat in AA (ATU80) then s/off MF
16260: RFGW, MFA PARIS FEC/A//192/E/400 TFC using "c" procedure. Poor copy. Offline encrypt to H6L/Algiers DP (DW)
16310.2: UNID, FF PARIS ARQ/E3//200/E/400 8rc. Betas. Little.no sync. DP (DW)
16310.2: RFFTB, Paris, France 150 ARQ-E3 200/400 5-lg TFC to RFFVAEA, Dahrn, on FDX cct (PT)
16313.6: Algiers, Algeria 14.46 Coquelet 8 MAE with TFC to Lagos embassy (PT)
16316: UNID, Polemb Kinshasa 0852 Pol-Arq 100/240 iprzygotup-end of file-Kinszaassa" (RH2)
16324.7: UNID, FF LIBREVILLE ARQ/E3//192/E/850 8rc. Betas. 1428z cct [JDJ] Cde de v svc "RFTJ de RFTJ from/to Dakar MI (DW)
16324.7: RFTJ, Dakar, Senegal 180 ARQ-E3 192/400 Controle de Voie to self being relayed on JDJ, Libreville — Dakar cct (PT)
16326: NWKHF1, USACE Kansas City 0123 MIL-STD 188-141A/USB w/sounding call. (MADX)
16340.2: UNID, ROMANIAN DIPLO FEC/ROU//164.5/R/400 TFC in online encrypt thru 0845z. Sign off in poor CW with ID. MI (DW)
16344.1: UNID, ROMANIAN DIPLO FEC/ROU//218.3/R/400 End of TFC in fec/rou then brief CW. DP (DW)
16355: SARMN, BAF MANAUS ? MIL-STD 188-144A on USB. Sounding 2255 2349 0043 0133 DP (DW)
16355: SARRF, BAF RECIFE ? MIL-STD 188-144A on USB. Sounding 2202 2053 2233 2323 MI (DW)
16355: SAJJR, BAF RIO DE JANERIO ? MIL-STD 188-144A on USB. Sounding 1746 1834 2011 2147 2235 2323 0011 005901480236 0324 MI (DW)
16706.5: UCMS, TH Konstantin Youn 0824 ARQ msg to Arkhangelsk (ML)
16706.5: UEIS, TH Pioner Karelii 0819 ARQ TFC to Arkhangelsk (ML)
16713: UFGL, TH Akademik Khokhlov 0836 ARQ w/UFGL log on and msg to Vladivostok (ML)
16713: UFPR, M/V Tairovo 0810 ARQ crew msgs to Vladivostok (ML)
16724: UFJC, M/V Anatolij Tortchinov 0728 ARQ part msg EE to unkwn, 53457 UFJC log off (ML)
16724: UIKF, TBS Neftgaz-56 0835 ARQ selcal sequence of MXYEY and msg to unkwn, UIKF log on/off (ML)
16801.5: J8B2154, BATM King Fisher 0800 RTTY 50/170 clg Kaliningrad w/UIW DE J8B2154 to ship TFC (ML)
16801.5: UCKO, TK Okeanrybflot 0725 ARQ TFC to unkwn, 53252 UCKO log on/off (ML)
16840.5: RRR34, MOSCOW RADIO SITOR/A//100/E/170 Svc qtc (0 urg) for UFXW and rcvd TFC fm UFXW. 1100z changed to fec for stn info and TFC lists MI (DW)
16961.5: FUF, French Navy Fort de France 1024 BAUDOT 75/743 w/test tape. (MADX)

16971: JJC, TOKYO FAX//60/576/N/800 Japanese script. Schedule indicates nav wngs fm 1100z MM (DW)
17170.4: ZLA, GW Awanui 0720 CW ID and ARQ tuning (ML)
17351.4: ZLA, GW Awanui 0710 CW ID and ARQ tuning (ML)
17385.5: UNID, British FCO 2243 PICCOLO-12 encrypted. (MADX)
17410: EZI, E10 Israeli Mossad, USB, 1330Z. TY
17462.7: RFFTA, Paris, France 10.10 ARQ-E3 200/400 5-lg TFC to RFTPA, N'djameina using FDX cct (PT)
17555: SUN5, Sunair Electronics Ft Lauderdale 1539 MIL-STD 188-141A/USB w/sounding call. (MADX)
17994: Trenton Military, 2218 USB calling Canforce 2705 w/no response. (RP)
18048: W3S, French Emb, Islamabad 0650 FEC-A 192/850 5LG msg to Paris (ML)
18178: CIO2, E10 Israeli Mossad, USB, 1345Z. TY
18186.7: UNID, Egyptian Emb, Pyongyang 1036 FEC clg Cairo (JG YSLGQ SKGQ KDS KDFESPSR) then off air (ML)
18258.5: HBD20, MFA Berne 0550 ARQ 5LG msg to unkwn, 0630 HBD20/1 s/off (ML)
18435.7: RFFVAEA, FF ALYSSE ARQ/E3//200/E/400 8rc. Betas. Cct corrupt, TFC in offline encrypt PF (DW)
18435.7: RFFVAEA, Dahrn, Saudi Arabia 19.10 ARQ-E3 200/400 Service TFC to RFFVA, Paris on FKW cct (PT)
18444.5: RFFXL, FF NAQOURA ? ARQ/E//184.6/E/400 8rc. Betas. No app TFC thru 1507z MI (DW)
18447.7: RFPFTA, FF NDJAMENA ? ARQ/E3//200/E/400 8rc. Betas. No app TFC thru 1745z MI (DW)
18456.7: UNID, MFA Cairo 0710 ARQ clg Asmara w/KKXI selcal, no TFC (ML)
18503.7: UNID, FF PARIS ? ARQ/E3//192/E/400 8rc. Weak/little sync, Betas MI (DW)
18560: BMF, Taipei Meteo 0050 FAX 120/576 sked (ML)
18667.7: UNID, Egyptian Diplo 180 ARQ 100/85 Telex from JMFS—N to KVJFKQO—R (PT)
18709.7: N7GEN, Baumholder, Germany 110 Packet Estonian Guard station working various stations in CE2001 exercise (PT)
18756: S00, MFA STOCKHOLM MIL.STD 188-141A ALE on USB. Cng s72/Kinshasa MI (DW)
16340: UNID, Algerian Diplo 1045 8-tone MFSK in 16.7bd callup mode. Into 100bd ISS mode at 1050. (MADX)
18788.9: UNID, British/Israeli Mil? 1054 4-tone MFSK 195.3/600. (MADX)
19216.7: prob RFLI, French Forces Fort de France 1011 ARQ-E3 96/400 idle. (MADX)
19216.7: RFLI, Fort de France, Martinique 09.35 ARQ-E3 96/400 CdeV to self via LIH cct to Papeete (PT)
19408.7: RFGW, MFA Paris 1622 Arq-E3 192/400 5LG to RFFK-AGE (FN Brest?) cc RFTJCF (FN Dakar area)(RH2)
19597.5: RPF AEO, Portuguese Mil 08.40 ITA2 50/400 5-lg TFC to RPF AEW. Messages headed "FM DSTA TO AOVW" on RTM cct. Some LSB chat in PP (PT)
19648: N2G, French Emb San'a YEM 0805 FEC-A 192/400 clg P6Z Paris to 5LG msg (ML)
19648: S5F, Brasilia, Brazil 190 FEC-A 192/850 French Embassy receiving TFC then svc message to UNID station (PT)
19823.7: UNID, Egyptian Emb Kuala Lumpur (JG WLKDKDJYLF) 0835 ARQ msg ATU-80 for Cairo (ML)
20025.5: UNID, UNID PICC// 20025.510. On standby, no app TFC thru 13/0647z DP (DW)
20025.5: UNID, UNID PICC// 20025.510. On standby, no app TFC thru 1857z MI (DW)
20025.5: UNID, British FCO 1526 PICCOLO-12 encrypted. (MADX)
20338: CENTR5, Romanian MFA 1706 MIL-STD 188-141A/USB wkg Z2H98:Romanian Embassy Harare w/calls back and forth. No follow-on TFC noted. (MADX)
20632: UNID, FAPSI 1700 Crowd36 40bd (RH2)
20698: S32, Swedish Embassy Kuwait City 1721 MIL-STD 188-110A/188-141A wkg UNID. (MADX)
20809: S31, Swedish Embassy, Algiers 1603 MIL-STD 188-110A/188-141A wkg UNID. (MADX)
20813.7: UNID, FF UNID ? ARQ/E3//192/E/400 8rc. Alphas thru 0913 MI (DW)
20815: P6Z, Paris, France 08.55 FEC-A 192/400 Calling A9C, Bucharest Embassy, with RYs (PT)
20942: S97, Swedish Embassy Abidjan 1635 MIL-STD 188-110A/188-141A wkg UNID. (MADX)
20976.7: UNID, Pakistani Emb Seoul 1015 ARQ admin msg to Islamabad (ML)
22374: UNID, BATM Strelec 1610 RTTY 50/170 TG's to Odessa (RH2)
22571.5: UFL, Vladivostok rdo 0800 FEC w/TFC list, exchange rates and ships' TFC (ML)
22981.7: UNID, Egyptian Emb, Jakarta (JG QKWFH—K)0450 ARQ msg in ATU-80 for Cairo (ML)
23174.5: MTS, RAFPORT STANLEY ? PICC// 23174.510. On stand-by til faded 2030zMI (DW)
23522.7: JMH6, Tokio Meteo 0837 fax 120/576 Good chart!(RH2)
23839.5: RFFCCC, Lille, France 120 ARQ-E3 192/400 CENTER-ADMI LILLE with TFC in FF to RFFLID - BATINFMA POINTE A PITRE (30May01). (PT)
24711.7: RFTJ, FF Dakar 0910 ARQ-E3 192/400 non protege msg, cct AFL (ML)
23921.7: UNID, PROVENCE (QTH ?) 0645 ARQ-E3 192/400 non protege msg for AIG LON23 and return CdV to Dakar, cct LFA (ML)
24332: GXQ, RN LONDON ? PICC// On stand by. Very weak. No app TFC thru 1635z MI (DW)

The contributors this month were:

Col DX — R.C. Watts
 CR — Craig Rose
 DW — Day Watson
 MADX — Mid Atlantic
 ML — Murray Lehman
 PT — Peter Thompson
 RH2 — Robert Hall
 RP — Ron
 TY — Takashi Yamaguchi of Nagasaki, Japan

Thanks to each and every one of you. Your efforts are appreciated as always.

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 Dextra 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!

our readers speak out

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, N2RLL, 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: Heisseluff 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. However, he just never got caught and survived to write about his freebanding. However, the lucky days of freebanding are coming to an end. Attached is an article, "New HF-Angle, Single Site Emission-Locator (HASSEL) Stations Ready To Cleanse Ham Bands," Heisseluff, 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 rash, 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 Heisseluff. Hot air. 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, "Heisseluff, 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 Heisseluff 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 kiddie walkie-talkies to name a handful. Thanks again, Henry for the laughs — although we do get the point and hear you loud and clear!

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 Crackerjack(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 Peeces." 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 bigs 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 running everything in the country on telecommunications."

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 2183 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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With a frequency range of 10MHz-2.6GHz, the *NEW* Digital Scout now captures signals that you only dreamed of. *Digital signals such as TDMA, GSM, APCO25, TETRA, ON/OFF Keying, Pulsed RF and more. In addition, the Digital Scout captures all the same analog signals as the popular Scout. *(Will not lock onto CDMA, Spread Spectrum or PCS)

The Digital Scout also performs the feature invented and patented by Optoelectronics, Reaction Tune. Interface the Digital Scout to a compatible receiver and watch as it automatically tunes the receiver to the frequency it captures, allowing you to instantly monitor the audio (analog only) from the captured signal. A beeper and vibrator will alert you when a frequency has been captured.

\$459

Antenna sold separately

The Digital Scout has 1000 memories with up to 65,000 hits per frequency. All memory can be downloaded to the PC using the Optolinx PC interface (optional).

- Frequency Range 10MHz-2.6GHz
- Capture *Digital and Analog RF
- Reaction Tune (analog only) with ICOM R10, R7000, R7100, R8500, R9000; AR 8000, AR8200; Optoelectronics R11, Optocom, OS456/Lite, OS535; BC245, BC780
- 1000 memories with 65,000 hits
- Beeper and Vibrator alert
- Calibrated signal strength reading -5 to -45dBm
- +/- 5dBm signal strength accuracy
- Download memory to PC using Optolinx (optional)

SIGNAL STRENGTH

The Digital Scout can also be used as a field strength meter. The Digital Scout displays the power level of the nearfield RF in dBm, which is calibrated at the input. Signal levels can be measured from -45 to -5 dBm with accuracy of +/- 5dBm.



Order Factory Direct 800-327-5912

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