

Int'l
Shortwave
Tuning Tips,
page 40

POPULAR COMMUNICATIONS

JANUARY 1999

Women Behind The Microphone: Saluting Radio's Pioneers



- **Can YOU Help Unravel An Extragalactic Mystery?**
- **The Great Brooklyn Radio Wars: Too Many Little Stations, Not Enough Frequencies!**
- **Product Spotlight: Alinco's DJ-X10T Wideband Receiver**

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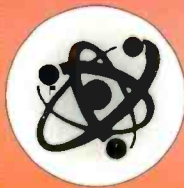
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VOLUME 17, NUMBER 5

FEATURES

Remembering The Ladies — A Salute To The Women Of Early Radio 8

Pioneering women behind the microphone and in the manager's chair.

By Donna L. Halper

The Great Brooklyn Radio Wars! 16

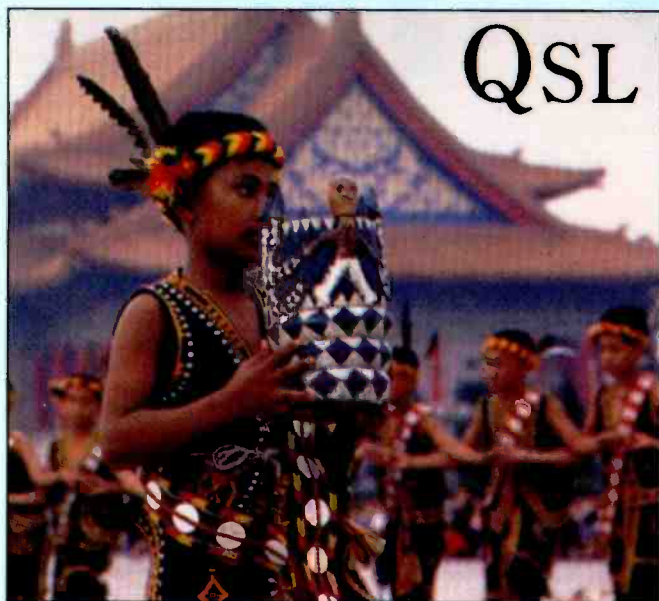
Too many small stations and not enough frequencies.

By Alice Brannigan

Astronomers Need YOUR Help 21

Your monitoring data could help scientists unravel an extragalactic mystery!

By Harold Ort



page 65

COLUMNS

The Radio Connection: *Radio Resources For The Restorer*22

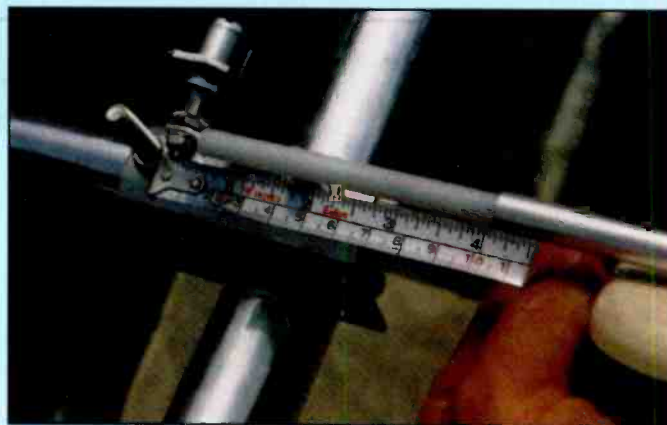
Radio Resources: *Beaming Up For Better Reception*.....28

The Ham Column: *Morse Code — Friend, Not Foe!*.....34

Antennas & Things: *The Zig-Zag Dipole*36

World Band Tuning Tips: *Navigating International Shortwave Broadcast Bands The Easy Way*40

CB Scene: *Happy New Year!*44



page 28

The Pirate's Den: *Bill, Monica, And Other Funny Folks Add To The Pirate Extravaganza*47

The Old CB Shack: *Working On An Old Polycom 23*48

Clandestine Communiqué: *The Latest On Nigerian Clandestines. And Washington's Radio Free Iraq*52

Product Spotlight: *Alinco's DJ-X10T Wideband Receiver*54

Broadcast DXing: *Real Life X-Files*60

The Listening Post: *Live From Maine. It's WBCQ — The Planet, And Norway Pulls The Plug*65

Communications Confidential: *Canada's Military Aeronautical Communications System — MACS*69

The Loose Connection: *Laundry Tubs, Punk Rock, And Burning Tongues*80

DEPARTMENTS

Tuning In: *Jam With That Call, Sir?*4

Pop'Comm P.O.6

How I Got Started: *Congratulations To Marty Foss Of Talkeetna, Alaska*27

Product Parade: *Quick Draw Clip Systems New Magic Flexible Button, And Fred Osterman's New Book — The Third Edition of Shortwave Receivers, Past & Present 1942-1997*42

Readers' Market78

ON THE COVER: *Customer Service Agents Nancy Dovelle and Christina Muczko put baggage on board an aircraft at the Key West International Airport in Florida. However you travel, be sure to take that new scanner along! And if you're still looking for a new wideband receiver, check out Joe Schroeder's review of Alinco's DJ-X10T on page 54. (Photo by Larry Mulvehill)*

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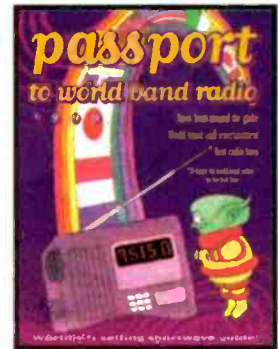
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Tuning In

AN EDITORIAL

BY HAROLD ORT, N2RLL, SSB-596

Jam With That Call, Sir?

Remember when non-smoking seating was first required in certain places of public accommodation, such as restaurants, shopping malls, offices, and airports? It was a great day for the breathing public. Even the Army, way-back-when, had a regulation (they've got regulations for just about everything, you know) about how much smoke was OK in a room occupied by a specific number of persons, ventilated by a certain number of windows of a certain dimension. Things are much different now. I'll bet the no-smoking regulation is 50 pages long!

In many areas of the country you can't light up anywhere. I recently passed through an airport and there they were in a designated smoking room. It was blue. But I just kept huffing and puffing, dragging my carry-on trying to make my connecting flight! Personally, I think breathing second-hand smoke as I try to wolf down a cheeseburger, Coke, and fries just isn't healthy. You don't have to be a rocket scientist or need congressional and industry studies to figure it out. It just isn't good for you. Now before we get five dozen letters reading me the riot act about how the benefits of smoking outweigh those of non-smoking, and telling me to mind my own business, I'll get right to the point.

Reader Brandon Artman of Pennsylvania sent in a clipping from his local newspaper titled "Japanese Turn Off Cellular Phones With A Jammer." It seems that folks in Japan are getting sick and tired of being disturbed by the ringing of cellular phones and the resulting loud conversations in public places. So, one company has come up with an answer to the problem. They've developed a small, short-range jammer called Wave Wall. The device puts out a signal on the cell frequencies essentially blocking both incoming and outgoing calls. They're selling pretty well, too; so far about 6,000 of the units are in use at restaurants, coffee shops, theaters, concert halls, hospitals, and virtually any public place. This is a pretty neat idea, don't you think?

"I wonder if that makes most Americans felons, or in the speak of the '90s, non-electronic verbal stalkers."

Apparently the not-so-cheap devices (they sell for around \$500) have a range of about 20 feet or so, are the size of a pack of cigarettes and can even be hung on the wall.

Think of the possibilities. You're having lunch with that special person and don't want any distractions. Or you're almost ready to fall asleep at the theater watching yet another Disney movie with the kids, and r-i-n-n-g, the doofus in the seat behind you gets a call from her neighbor asking if she'd like to get together later for tea and cookies. Now, I know that sometimes an important call, like making a pit stop on vacation, just can't wait. But you'll never convince me that all the millions of cell phones on the tables in restaurants and attached to the belt of millions of everyday folks like my brother-in-law or the guy down the street will ring with news that the house just burned down, or the stock market just crashed, or their parakeet died. Nope. I've overheard these life-and-death conversations, and you have too. No, not on an unblocked scanner, but right there in person. I've heard at least *half* the conversation without trying. It's always the same basic stuff. "Right, right. So you think if we drop the kids off at Sue's by noon, we'll be able to catch the 3 o'clock train?" And then there's the user-initiated call from flubber lips at the next table. "Hello, John. I'd like to check on the status of that proposal you were sending me. I know I only asked you to send it to me yesterday afternoon, but I'm here in McDonalds trying desperately to impress the family at the next table."

And so it goes—conversations that are costing folks way too much time and money being overheard by anyone without a scanner that's within earshot of the cell phone user. I wonder if that makes most Americans felons, or in the speak of

(Continued on page 77)

POPULAR COMMUNICATIONS

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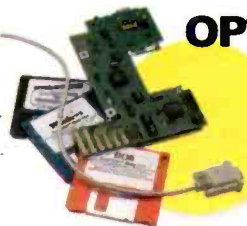
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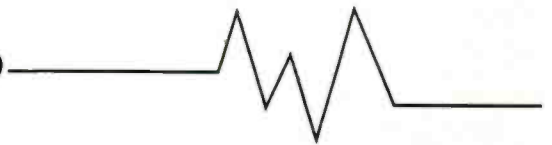
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CIRCLE 132 ON READER SERVICE CARD

Pop'Comm P.O.



LETTERS TO THE EDITOR

Each month, we select representative reader letters for our "Pop'Comm P.O." 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 "Pop'Comm P.O." Address letters to: Harold Ort, N2RLI, SSB-596, Editor, *Popular Communications*, 25 Newbridge Road, Hicksville, NY 11801-2909, or send E-mail via the Internet to <popularcom@aol.com>.

Voting Against Crime Prevention?

Dear Editor:

I have a couple of thoughts on different subjects. I read your magazine in braille and enjoy it quite a bit. It would be nice if more communications magazines/publications would be available in braille as I don't have time to read a lot of things on tape or other spoken media.

Now for the thoughts I mentioned. It is possible we are approaching the HR 2369 problem in the wrong way. Perhaps instead of calling it a vote for privacy, it should be pointed out to Congress that what they are actually doing is voting *against* crime prevention. If a scanner listener hears about a crime that has been committed or is going to be committed, they will not, and legally cannot, report it or they will be arrested for invasion of privacy (and the criminal will probably not even be touched). If, on the other hand, Congress leaves the law alone, people will still be able to report criminal activity without being worried about being arrested. Of course, this is probably what Congress is trying to prevent as they are the ones mostly likely to get caught this way.

My other thought concerns the amateur radio service and code. I am somewhat ambivalent about removing the code requirement. I am currently studying to get my license and I agree that the code is a large pain. But, on the other hand, I

Dear Editor:

The following is a charming little ditty called "I'm Going To Marry My Radio." It's something I have worked on during my weekend SWLing binges. I also do poems and odes to computers, Sporadic-E, and satellites, but I won't torture you with that. I think the following is enough. I've been a *Pop'Comm* reader

for nearly 10 years and enjoy every page. Good job and 73s!

Nile Kelly, Registered Monitor
CA6WB, Unit 2482, Force Ten Radio

Dear Nile:

You're a pretty talented fellow. Please, just don't put this to music!

I'm Going To Marry My Radio By Nile Kelly

I'm going to marry my radio, and we've already set a date
Yes, I'm going to marry my radio, we're going to be lifelong mates.
I just can't help it, I had to propose, because I can't resistor.
Instead of flowers, instead of rice, we'll all be throwing transistors.

I'm going to marry my radio, and I've already bought the rings,
Shiny 14-carat torroids, for the super DX that it brings.
Long ago I'd a YL who promised me media mass,
When I found she had no QSL, I had to leave the lass.

I'm going to marry my radio, gotta love them circuit boards,
Superhet, regen, Baygen, NiCd packs and electric cords
When the big day finally comes, we're going to TX sacred vows.
Over 4146 power tubes, with more plate volts than the law allows.

I'm going to marry my radio, and my friends all think I'm a wack,
But you're all invited, 1700 UTC at the radio shack.
AM, FM, shortwave, it really doesn't matter to me.
Wideband, narrowband, multiband, with a little bit of S-S-Bee.

I'm going to marry my radio, General Electric will be the best man,
Grundig, Drake, and Collins will show up if they can.
The only drawback is that we can't have any kids.
But we'll add more speakers — like woofers, tweeters, and mids.

I'm going to marry my radio, what a spectacle it will be,
To see a guy get lawfully hitched to his machinery.
Hammarlunds, Vikings, and Bearcats will be wedding guests of course.
And no where in history has a radio filed for divorce!

am planning on using it when I get my license and it is possible that I might enjoy it so I don't think we ought to get rid of the code frequencies. To use them, one of course must know the code and pass a test

for the same. Also it should be that with every hobby there is something you must learn that may not be fun to learn but you might find useful at some point.

Tom Masterson, Bremerton, WA

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Remembering The Ladies — A Salute To The Women Of Early Radio

*Pioneering Women Behind The Microphone
And In The Manager's Chair . . .*

By Donna L. Halper

Women were involved in broadcasting right from the beginning, although you might not know it if you read the majority of the textbooks. Because most historians have concentrated on the technological development of early radio, their focus has been on the inventors and the corporate entrepreneurs, most of whom were men — Guglielmo Marconi, Reginald Fessenden, Lee DeForest, Edwin Howard Armstrong, and David Sarnoff. Given this approach, it is difficult to show how important (and how necessary) the women of early broadcasting were. If you find women mentioned at all, it is usually as performers: early radio needed live talent, and, as a result, numerous women, and

“ . . . a closer look at what they actually did proves their roles were far more extensive than just typing letters or answering the phone.”

even a few young girls, worked as singers and accompanists. (Even back in the days when women were not supposed to want a career, the study of music was encouraged; many women who had received some formal training suddenly found themselves invited to entertain an invisible audience of thousands, rather than just performing for family and friends.) But although a few of radio's earliest singing stars were female (most notably Vaughn DeLeath, “The Original Radio Girl”), it is also true that a few of radio's earliest managers, several station owners, and even a couple of engineers were female.



Eunice Randall was 20 when this photo was taken at what was then 1XE, in 1921. She was the first woman on the air in Boston Radio. (Courtesy Eunice Stolecki)

Whether you support the idea of feminism or not, the fact remains that women who took non-traditional jobs in the 1920s faced many more challenges than women do today. Back then, there were no laws about equal pay; station executives could (and did) say they would

never hire a woman; and some journalists who believed that radio should be a man's job wrote columns that were highly critical of women announcers. Although the '20s brought great social change (women got the vote, many more women attended college), old attitudes

refused to die: the common wisdom said that women who worked in radio should confine themselves to being secretaries or playing the piano or possibly doing an occasional program about cooking or fashion. But women doing the news? Women managing the station? Unthinkable! Yet in spite of all the opposition from their society (and at times from their own colleagues and families), certain women refused to accept a limited role. These pioneers and their achievements are seldom acknowledged, so let me introduce you to some of them.

The Story Lady

Perhaps the first woman to be both an announcer and an engineer was Eunice Randall (later, Eunice Randall Thompson). At the age of 19, she was broadcasting on 1XE, a Boston-area radio station owned by AMRAD — the American Radio and Research Company, which manufactured radio receivers and various types of ham equipment. The year was 1920, and the station operated from studios on the campus of Tufts College (at Medford Hillside, Massachusetts) with a dedicated staff comprised of student vol-

“... most stations tried to have at least one announcer on the staff who could step in and perform in an emergency.”

unteers and AMRAD employees. Eunice Randall had come to radio by accident, having been raised on a farm and intending to go to art school. But needing extra money, she found a job as a draftsman in AMRAD's factory (the first woman they ever hired), and this provided her introduction to the growing wireless industry. It wasn't long before she was deeply involved with both professional and amateur radio: she soon built her own ham station, and ultimately became one of the first women in New England to hold the first-class license (her ham calls were 1CDP, and later W1MPP). Interestingly, she had no role models in her family for any of this — I have met several of her relatives, and as far as they recall, none of the Randalls was a “radio bug.”

To Boston Radio fans of the early '20s, Eunice Randall was “The Story Lady”: two nights a week from late 1921 through 1923, she had a sponsored program (the station's first — brought to you by *Little Folks Magazine*), reading stories to chil-

dren. She also did the police reports, gave Morse code practice, sometimes announced the news, and when guests didn't show up, she and one of the station's engineers would sing duets! She even became the assistant chief announcer. 1XE (which was re-named WGI in February of 1922) was heard all over the United States, and Eunice received fan mail (and more than a few marriage proposals) from people in many different cities. Gradually, her technical skills and her willingness to do whatever it took to keep the station on the air — including climbing the tower if necessary — earned her the respect of her male colleagues at AMRAD, most of whom had been vehemently opposed to hiring a woman when she first applied.

Eunice was frequently written about in the Boston and suburban newspapers, and, unlike some other female announcers who encountered ridicule and hostility, what was written about her was very complimentary. In case you are wonder-

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ing if perhaps she was extremely attractive and the columnists wished they could take her out. Eunice was very tall for a woman of her day — at least six feet tall — and while pictures of her show a woman with a wonderful smile and a pleasant face, she does not look like a potential model. Rather, those who knew her say it was her dedication to her work and her outgoing personality that won over even her critics.

While she had fun on the air, Eunice truly loved the technical side of radio, and studied hard to keep up with the much more experienced men at AMRAD. The company soon expressed their confidence in her by making her a member of the team of experts sent to discuss and demonstrate AMRAD's newest equipment at conventions and radio shows. Given how few women were in the technical end of radio back then, we can only imagine the impression it must have made on people who met her at the AMRAD booth and discovered she wasn't the receptionist — in several cases, she had helped to test or build that equipment!

If IXE/WGI's parent company, AMRAD, had not been beset with financial problems — by 1925 it was bankrupt — Eunice might have stayed on the air much longer. As it was, she did remain a dedicated ham radio operator for her entire life, and, although she left commercial radio, she continued to do drafting and engineering work until she retired. Occasionally, she appeared as a guest on women's shows during the 1930s and '40s, talking about her adventures in radio's early years. Eunice Randall was by all accounts an amazing and courageous woman. Her desire to enter the all-male world of radio totally mystified her father, and I am told he never accepted her decision. But she must have been an inspiration to numerous young women of the early 1920s who heard her voice on the radio and thought that maybe someday they, too, could be like her.

Bertha Brainard — One Of The First Women Network Execs

Another woman who had never planned to be in radio was Bertha Brainard. She grew up in New Jersey, and, as a child, dreamed of becoming a movie star or performing on the stage. After serving as a nurse during World War I, she pursued her love of theater. In the fall of 1921, when



Bertha Brainard became NBC's first woman executive in 1927. (Courtesy Library of American Broadcasting)

professional radio came to Newark, she volunteered to do a program of theater reviews and news of upcoming shows. (Like most performers and announcers from radio's early days, Bertha didn't expect to get paid for her work on the air. She did it because it was fun to be a part of a brand new mass medium.) Her show, "Broadcasting Broadway" marked the first time a woman had been on the air at station WJZ, which, not long afterward, moved from New Jersey to New York City, making it even easier for her to interview the actors and actresses. In fact, she had such excellent contacts that she was hired in a paid capacity to find and book the talent for WJZ. This led to more responsibilities, and, by 1925, she was working directly with the management running the station; she even developed new programs and hired announcers.

Before I continue, I should explain that in radio's early days, titles often meant something very different from what they mean today. For example, a program manager did in fact manage the programming — by finding enough musicians and guest speakers to fill the demands of live radio. And a station secretary — while usually a "woman's job" with a comparatively low salary and not much prestige — was often pressed into service on the air, especially if she could sing or had some expertise in domestic

arts, such as cooking or sewing. In Boston, Jean Sargent, the woman originally hired to be executive secretary to John Shepard III (he was president of the Shepard Stores and owner of station WNAC), ended up doing a successful daily show for homemakers. She became so well known that when she left, the name remained; a succession of women who filled the secretarial role also served as "Jean Sargent" on WNAC. Thus, while it is true that many women in early broadcasting were listed as "secretary" or "studio hostess," a closer look at what they actually did proves their roles were far more extensive than just typing letters or answering the phone. Many were doing work we associate with managers — they often produced their own shows, hired the talent, brought in the guests, and even surveyed the audience to find out what topics interested them! As a result, women who worked as station secretaries often felt very lucky — it was much more exciting than the typical office job. They met interesting people, their duties changed constantly, and sometimes they even got on the air themselves. Early stations could not have functioned effectively without these versatile women!

The original "Jean Sargent" had something in common with Bertha Brainard — both worked for men whose attitude about women's proper role was very traditional. Unlike Bertha, who stayed on at WJZ despite a boss who was less than supportive of her goals, "Jean Sargent" left WNAC because her boss refused to give her more opportunity to move beyond a "women's show." As long as she remained in the role considered normal for a woman, she was encouraged, but when she asked to do shows considered men's jobs, she was not even considered for a try-out. Frustrated by this, she ultimately moved to the mid-west, where she took a radio job with more opportunities. Meanwhile, Bertha Brainard was working for a program manager (Charles Popenoe) who said in a magazine interview in September of 1924 that he believed women lacked the skill to be announcers, and if it were not for Bertha's reputation as a credible theater critic, he would have taken her off the air long ago! We can only imagine how she felt seeing that quote, but then, Bertha Brainard seemed to have an attitude similar to that of Eunice Randall — disapproval did not stop her, and she handled criticism with remarkable poise. Based on what I have read about her duties, Bertha was the equivalent of the Assistant Program

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Manager; yet her boss persisted in minimizing her role, speaking about her as if she only did clerical work.

Several books by and about the men who founded WJZ give a very different picture, however, the announcers themselves stated that it was Bertha Brainard who helped them improve their air-work and trained the staff in how to do their jobs more effectively. Quotes from these men and women who worked at WJZ indicate she was regarded as a "Big Sister," and her opinions were respected. One man she had to impress was David Sarnoff, whose company purchased her station in 1926. Nothing I have ever read about Sarnoff suggests that he had a modern attitude about women; in fact, he seemed quite old-fashioned.

Yet he must have been pleased with her competence because he certainly could have replaced her when NBC took over WJZ. Not only was Bertha retained — she was promoted. By 1928, she held the title of Program Manager for the NBC Radio Network, and eventually became National Commercial Manager. She was profiled in a number of magazines and newspapers (including the *New York Times*), and the authors of several books about opportunities for women in radio spoke highly of her. She was certainly one of the first women network executives, and she worked for NBC for the next 20 years, until she retired.

Chicago's "First Lady Of Radio"

Another woman who found similar success with NBC got her start in Chicago on a small station known as WGU, which broadcast from a department store several times a week in the spring and summer of 1922. The station didn't last very long, but the woman who managed it (which meant that she booked the talent, did the publicity, performed classical selections if a guest failed to appear, and almost single-handedly kept WGU operating) would go on to a long and successful radio career.

Judith Waller had hoped to become a journalist. When radio beckoned, she was working for the American Red Cross and considering her options. She had recently tried to get a job at the *Chicago Daily News*; to her surprise, the man who had interviewed her called her one evening to tell her he had just bought a station (WGU), and he asked her to help him run it. Not long after that phone call, she found herself named station manager.



Marie Zimmerman and her husband, Robert. He built station WIAE and she ran it, becoming the first woman to own and operate a radio station. (Courtesy Dave Ciesielski)

WGU ultimately folded — early stations were fun to own but expensive to maintain. Judith's radio career was far from over, however; she was soon back in radio with WGU's next incarnation, WMAQ. As one of the few women station managers, she quickly became known for her ability to persuade famous classical musicians and opera stars to perform (back then, talent was not always paid — radio was still a volunteer activity at many stations), and for putting on high-quality programs. By the late '20s, Judith Waller was developing educational programming on WMAQ — she strongly believed that radio should not only entertain but also be a vehicle for learning.

In 1931, NBC took over WMAQ and, again, David Sarnoff found he had a talented and very competent woman running the station. She had established an arrangement with the University of Chicago to have debates, panel discussions, and even some courses on the air; she was developing programs in music education for children, and thinking up creative ways to do more public service. Her diligence was rewarded — Judith was named head of NBC's new Educational Division, responsible for all of the educational programming on NBC stations throughout the Midwest. During her years in radio, she wrote many articles for scholarly journals, as well as a book about broadcasting and public service, *Radio: the Fifth Estate*. She was an eloquent spokeswoman on behalf of the importance of public service, and while she loved music and radio drama, she did not want her industry to ignore the need for programming that would inform the audience

and make them think. Judith Waller's career with NBC spanned more than 25 years, and numerous civic and professional organizations — from the Parent/Teachers Association, to the American Medical Association — thought of her as Chicago's "First Lady of Radio."

The Station Owners

In the early '20s, a small number of women were active in amateur radio, building and operating their own stations. But professional radio was more of a challenge — it required an outlay of cash that most women did not have. However, in the small town of Vinton, Iowa, in the summer of 1922, a unique event occurred: Marie Zimmerman put a station on the air. The daughter of immigrants, Marie had grown up on a farm and had never thought much about radio until she married Robert Zimmerman, an electrician who was fascinated by the new radio craze which was sweeping the country in 1922. He introduced Marie to ham radio, and they both decided to try to put a professional station on the air. Bob built it (he had to ask for donations to pay for the equipment), but the license was issued to Marie, who operated it and did all the things that station managers in those days had to do. WIAE was typical of small "mama/papa" stations of the early '20s — Marie and Bob were the entire staff of the station since they couldn't pay anybody to work for them. Studios were in the living room of the Zimmerman home, sometimes in a rented office, and sometimes in Bob's truck, which he drove around Vinton — Marie did the announcing as

"The public was amazed when their radio sets brought them the voice of a candidate for local office telling why he deserved their vote."

they demonstrated the magic of broadcasting to people who had not seen it before. The station operated on a shoestring, relying on local volunteers to sing or perform, and, when no talent could be found, Marie played a few phonograph records. It was an election year, and suddenly local politicians discovered that giving a talk on radio reached many more people than going around town campaigning. The public was amazed when their radio sets brought them the voice of a candidate for local office telling why he deserved their vote. It was the first time radio and politics had met in Vinton: to us today, candidates giving speeches are commonplace, and usually boring. But in 1922, listeners had a sense of wonder about broadcasting: they would put on their headphones and marvel at what they heard. WIAE broadcast live from the County Fair that year and tried to maintain a presence at other local events. Marie's living relatives do not remember her station (they were too young to have heard it), but they all commented on what a warm and outgoing personality she had, so undoubtedly the people in Vinton must have enjoyed listening to her, and they were probably very grateful to have a radio station — even a small one.

Marie Zimmerman seemed to have a remarkably egalitarian relationship with her husband Bob. He fixed the equipment: she did the paperwork the government required for license renewal, and hired all the performers — and they both did their part to maintain a regular schedule of three (sometimes four) broadcasts a week. Had it not been for the fact that the two of them were not rich, and that right up the road, a powerful new station with a large budget (WJAM) went on the air not long after WIAE did, the little station might have lasted longer than it did. But for nearly a year, it was there, bringing local residents a chance to perform and to hear their neighbors on the air. In the summer of 1923, the Zimmermans totally ran out of cash and Marie did not renew the license. There would be several other women who owned and operated stations in the late 1920s, but Marie Zimmerman did it first. She later went on to a career in business, becoming head buyer for a Midwest department store.

One other woman owner was Ida McNeil, who ran a one-woman station from her house (like Marie Zimmerman, her husband had built it for her in 1922; unlike Marie, she was still running it 20 years later); she gave the audience weath-

er reports, farming tips, some music, messages of interest to the community, and whatever else she felt would be helpful to local people. The station began as an amateur operation, but by 1932, KGFX in Pierre, South Dakota, was a full-fledged commercial station, although Ida was still 99 percent of the staff. KGFX occupied such a positive place in the hearts of her listeners that Ida and her little station were written up in *Time* magazine in 1941!

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of WLAG in Minneapolis. She overcame personal tragedy (the unexpected death of her husband after they had only been married a year and she had just given birth to their first child) and not only became a respected singer, but she was then hired as Minneapolis' first woman station manager. A critically acclaimed soprano who had studied in Europe, Eleanor became a vocal supporter of classical music on radio; when the owners of WLAG went bankrupt, she worked as Music Director for their successor, WCCO.

There was also another famous vocalist who managed an early station — Vaughn DeLeath, who had a long and very successful career as a singer and a recording artist, but who also served as Program Manager for a New York station, WDT, in 1923-24. As mentioned earlier, many of the first program managers were performers themselves, mainly from classical music or opera backgrounds, or playing for an orchestra. This made it easier for them to find colleagues who would be willing to volunteer at the station — the exposure was good for a performer's career, since it gave him or her free publicity. And, while not every station had the good fortune to be run by a vocalist as famous as Vaughn DeLeath, most sta-

tions tried to have at least one announcer on the staff who could step in and perform if an emergency arose.

Other women in early radio did the "women's shows," but many took their show beyond just recipes and fashion tips to bring in interesting guest speakers on topics as wide ranging as foreign policy and current events. Caroline Cabot of WEEL in Boston was typical of this genre of women's show; she received huge amounts of fan mail from grateful female listeners, and she soon had her own staff and her own office, where her daily show could be produced more efficiently. By the '30s, some women were even doing a sort of talk show — the best known of these was New York's Mary Margaret McBride on WOR.

I haven't even begun to discuss such pioneering women announcers as Jessie Koeving or Halloween Martin, or women radio columnists such as Jennie Irene Mix, or other women owners like Mary Costigan — perhaps I can do Part Two at some point!

Today, few people think about the Bertha Brainards, Eunice Randalls, Judith Wallers, or Marie Zimmermans of early broadcasting. There are a number of women on the air in nearly every format;

and, while the majority of the owners are still men, there are more women in sales and in management than there were in previous generations. Hearing a woman read the news or announce a song no longer brings forth newspaper editorials predicting the end of life as we know it if women are allowed to continue doing "men's jobs." But were it not for the determination of the first women in broadcasting, perhaps radio would still be for men only. These pioneering women not only succeeded, but, more important, they proved to skeptics that when given the chance, a qualified woman could get the job done. Their efforts earned the respect of their industry, and they served as role models in a society where few young girls thought they could ever work in the media. I hope one day the historians who write the textbooks will agree that the achievements of broadcasting's women pioneers deserve to be remembered. ■

Editor's Note: Donna L. Halper is a radio consultant, educator, and broadcast historian. She is a contributing editor to the Boston Radio Archives, and is on the faculty at Emerson College in Boston. She has written two books and is working on a third.

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The Great Brooklyn Radio Wars!

Too Many Little Stations, Not Enough Frequencies

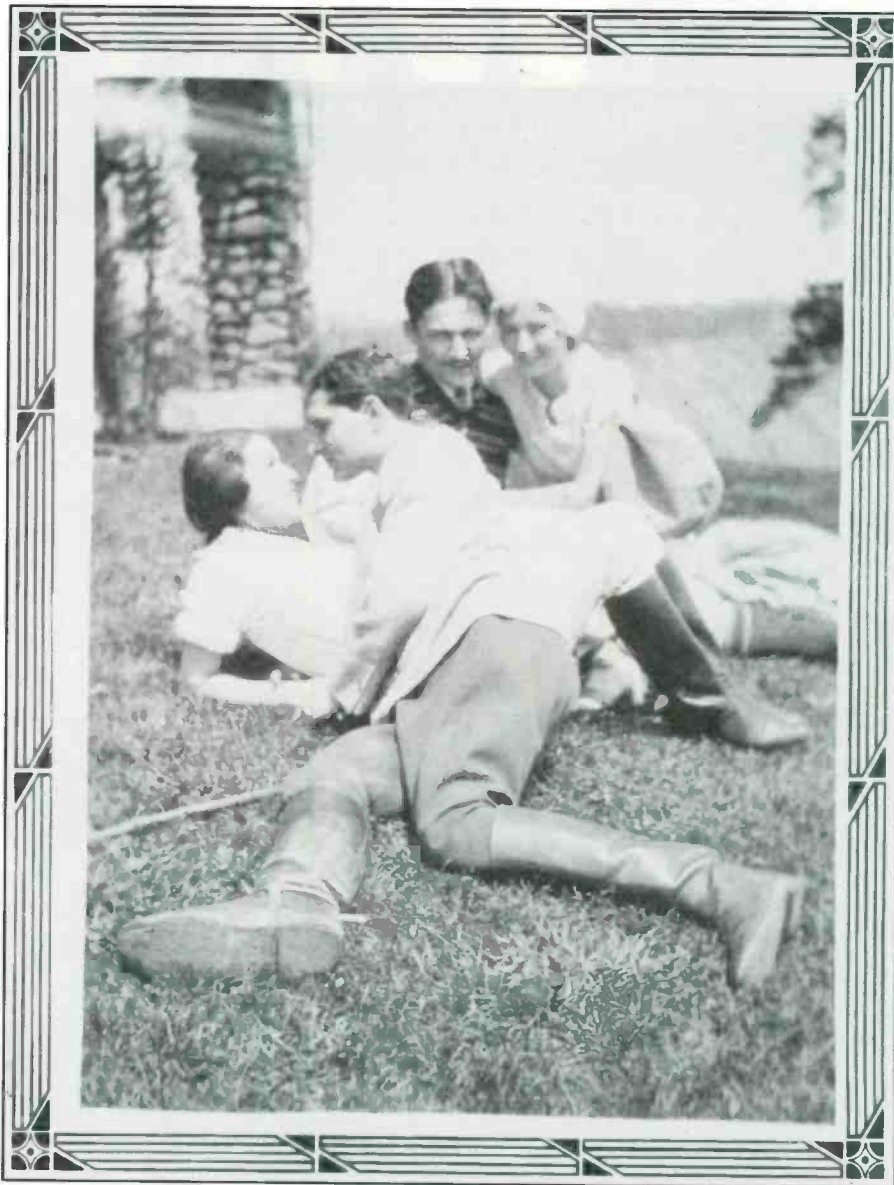
By Alice Brannigan

When radio caught on with the public, everyone either wanted to listen or to broadcast. In the early 1920s, the government was willing to issue a broadcasting license to virtually anyone who applied for one. Many companies primarily engaged in broadcasting applied for high-powered stations. But hundreds of applications also poured in from individuals, churches, stores, schools, clubs, hotels, newspapers, amusement parks, and others asking for licenses to operate with transmitters running as little as 5 to 100 watts. In larger metropolitan areas, this eventually resulted in too many stations crushed onto the few available frequencies. Someone or something had to give. But who, or what? The Great Brooklyn Radio Wars that began in the mid-1930s provide a typical example.

Enter WLTH

In September of 1925, R. M. Lacey and J. A. Bergner, operators of the Flatbush Radio Laboratories, 1421 East 10th Street, Brooklyn, New York built a 100-watt radio station at their shop. They asked for a license and received the call sign WFRL, which permitted them to commence immediate operation on 1460 kHz. A year later, WFRL became incorporated. Stockholder Samuel J. Gellard, a bright young go-getter, was appointed treasurer. Soon after, the station's license was transferred to R. M. Lacey, individually. At that point, WFRL illegally jumped from 1460 kHz to 910 kHz. Stations changing frequencies and power at will was common during late 1926 and early 1927 because the United States was without effective radio regulation.

In early 1927, Congress created the Federal Radio Commission (FRC). In April, that agency assigned WFRL to 1370 kHz, permitting it to increase power to 250 watts. In May, WFRL relocated to shared space in the Strand Danceland ballroom, 635 Fulton Street.



This 1929 snapshot shows WLTH's dapper Sam Gellard relaxing in Brooklyn's Prospect Park after horseback riding with friends. Gellard is seated in the rear center of the photo, wearing the dark sweater. (Original photo from the personal collection of a reader who asks to remain anonymous.)

In late July, WFRL was acquired by The Voice of Brooklyn, Inc., Sam Gellard, President. The following month, he moved the studios into the mezzanine of

the newly built luxurious Leverich Tower Hotel on Willow Street, in upscale Brooklyn Heights. Gellard changed the station's call letters to WLTH, incorpo-

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rating the initials of the hotel. The frequency was changed to 1170 kHz, although the transmitter remained on the roof of the Strand Danceland. In mid-1928, however, the transmitter was relocated to a site at Avenue W and East 38th Street (now a park).

WLTH received permission to increase power to 500 watts in September of 1928, soon after changing its frequency to 1400 kHz, but the FRC forced it to share its broadcast time on that frequency with several other small Brooklyn stations. Those were times of transition motivated by the start of the Great Depression. The luxury hotel fell upon hard times. Even though the hotel tried to cut back on its amenities, it still went bankrupt. In January of 1930, WLTH checked out, moving its studios to two rooms in the offices of *The Brooklyn Daily Eagle* newspaper, 305 Washington Street. This gave WLTH the opportunity to broadcast bulletins obtained from the newspaper, while providing the newspaper with wonderful exposure on the radio.


Hanging On

The Great Depression was tough on most businesses, and broadcasters were no exception. WLTH and its local time-share companions all directed the major portion of their programming at New York City's large Yiddish-speaking Jewish population. Most also provided some programs for other ethnic groups, including Italian, Irish, and Scandinavian.


Sam Gellard had merchants eager to reach WLTH's audience, and the method he devised to stay in business was both clever and unique to WLTH. Unlike WLTH's competitors, his station did not establish commercial air time rates. Instead, merchants could get free plugs before and after individual music selections were played. The audience would be told that a particular song was brought to them by one of the local merchants. WLTH asked merchants only to chip in a small payment to help defray the royalties paid for the use of the music. This ran merchants less than \$4.00 per week, if they signed contracts for three months.

This unorthodox sales method worked well. WLTH was doggedly competing with its three local time-share stations, WARD, WBBC, and WVFW. Minor problems constantly arose between this rowdy and feisty bunch, as each fought for the prestige of controlling the frequency's "main station" identity, as well as allegiance from advertisers and listeners. They bickered whenever one remained on

SAMUEL GELLARD
PRESIDENT



TELEPHONE
MAIN 4-5716



WLTH
BROADCASTING STATION
OF
BROOKLYN EAGLE BUILDING
BROOKLYN
N. Y.

Dec. 9 1931

WLTH verified with this unsigned letter and EKKO stamp in December of 1931.

the frequency beyond its allotted time period, ran a program perceived as too similar to another station's, lured away another station's artists or advertisers, or made a comment another station didn't like, etc. It was definitely war.

In April of 1930, WLTH moved its transmitting site to 180 feet south of Avenue V, on the west side of Flatbush Avenue (at 2568 Flatbush Avenue., the present site of a brick business structure on the corner of Henderickson Place). In October of 1935, Gellard moved out of *The Brooklyn Daily Eagle* building. New studios were opened at 105 Second Avenue in Manhattan, although the community of license registered with the FCC remained in Brooklyn. These studios con-

tained a small auditorium for live dramas.

Problems Arise

But all was not roses. The FRC had long known that despite their time-sharing efforts, broadcasting was still bursting at the seams in metropolitan areas. The agency decided to weed out stations it found unnecessary, irrelevant, or which it deemed as being operated poorly or technically substandard. In April of 1934, FRC Examiner Ralph Walker went to Brooklyn, New York, where a total of eight small stations existed. Unfortunately, he got an earful of the antics on 1400 kHz. He recommended all four community stations sharing 1400 kHz (WARD,

tel. TRiangle 5-6690

214.2 Meters - 1400 Kilocycles

W B B C

WBBC Bldg., MONTAGUE COURT BUILDING
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BROOKLYN, N. Y.

This will verify the proof of your reception of program
broadcasted through
"BROOKLYN'S OWN STATION" W B B C on
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We thank you for your kind expression, and any further
comments that you may send in on future broadcasts will be
greatly appreciated.

Yours very truly,
BROOKLYN BROADCASTING CORP.

Another contender in the Great Brooklyn Radio Wars was 500-watt WBBC. In 1934, the government suggested it be deleted, along with all other local stations on 1400 kHz.

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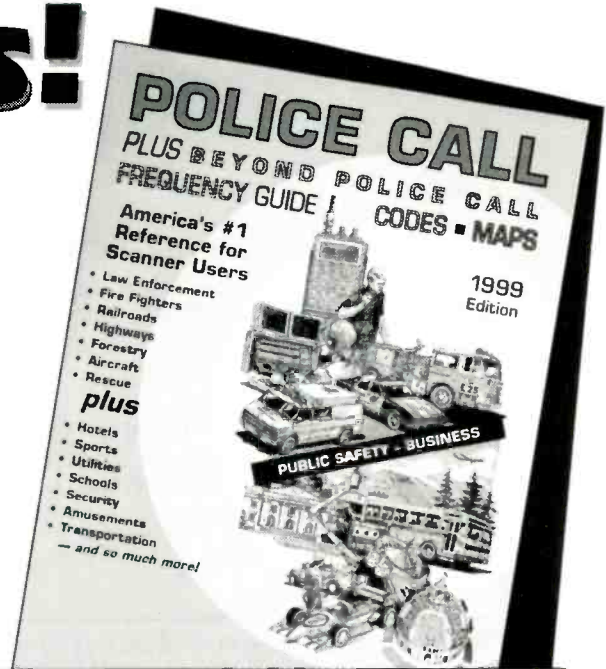
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WBBC, WLTH, and WVFW) for deletion. Walker alleged the stations were all being operated in a disorganized and careless manner.

In December of 1934, the government's tentative plan was to combine WARD, WLTH, and WVFW so that their air time could be taken over by WEGL, a new proposed station to be put on the air by *The Brooklyn Daily Eagle*. WBBC would be permitted to remain in operation and share time on 1400 kHz with WEGL. In January of 1936, WLTH and the two others were officially deleted by the FCC, so WEGL could start operations.

It Was More War!

Gellard took up the cudgel, leading the three endangered stations in raising a loud squawk, fueled by listener support. Gellard wasn't about to pull the plug and go away quietly. The stations kept on broadcasting. They demanded a hearing. As of April 1936, they had managed to remain on the air by postponing the effective date of the deletions no less than four times. It demonstrated to the FCC that it

wouldn't be a breeze deleting existing popular stations.

In late 1936, WLTH and WARD drew up plans to combine into a single station that would operate on 1400 kHz, although the two stations were still in court fighting to remain on the air independently. As of October 1937, WLTH, WARD, and WVFW were still operating, although they had been dropped from Commission's license records in August. The FCC finally gave up and decided to renew the licenses of the three stations. Plans for the Phantom WEGL were scrapped, and the station never went on the air. Had The Great Brooklyn Radio Wars at last ended? Not quite.

Moving On

By mid-1938, WLTH was calling itself "The Radio Theatre of The Air." The station's daily six-hour schedule still consisted of ethnic-oriented programming, primarily in Yiddish.


In October of 1938, a fire destroyed the station's Flatbush Avenue transmitter shack. WLTH was able to make arrangements with WVFW, one of its timeshare

partners, to temporarily use that station's transmitting facilities at Foster Avenue and East 57th Street, Brooklyn. By December of that year, WLTH had found a new site for its transmitter at Provost Green, and Huron Streets. A 195-foot vertical radiator was constructed there. The station's studios remained at 105 Second Avenue.

Sam Gellard then took a second look at his 1936 plan to merge his WLTH with timeshare station WARD. This time, he included the two other small Brooklyn 1400 kHz time share stations, WVFW and WBBC, in the concept. Unified, they would create one full-time 1400-kHz station. In January of 1941, Gellard announced the four-station merge, and he would become 25 percent owner of the new station.

A Slight Problem?

Things appeared all set, at least until the FCC's NARBA Treaty reallocations put a slight hitch in the realization of this arrangement as originally planned. The NARBA Treaty, announced by the FCC on May 1, 1941, required many stations to


 Radio Broadcasting Station
W-A-R-D
 427 Fulton Street
 Brooklyn, N. Y.
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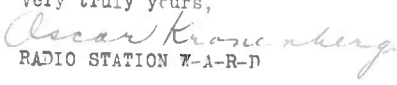
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Dear Sir:

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Thank you.

Very truly yours,

 OSCAR KRONENBERG
 RADIO STATION W-A-R-D

OK:MM

Brooklyn's WARD, owned by Rabbi Aaron Kronenberg, was yet one more timeshare 500-watt station uncomfortably wedged onto 1400 kHz. This 1931 verified letter is signed by Oscar Kronenberg.

Brooklyn, Inc., the licensee of new 1 kW (500 watt nights) station WBYN, Brooklyn, New York.

Gellard's equal partners in the UBC were WARD's Rabbi Aaron Kronenberg (who served as UBC's president), WBBC's Peter Testan (who served as WBYN's Chief Engineer), and WVFW's Sal d'Angelo (who became UBC's secretary). Together, their talents combined to run a station that audiences simply loved. The stickler was that, after so many previous years on the same frequency, as fierce competitors, they found that they just didn't like one another and couldn't get along. Ego problems constantly arose, and petty annoyances from years past kept being dredged up and rehashed. It was still war!


Despite the fact that they had a popular station, and were operating at a profit, within a few years, they realized they had to sell WBYN and go their separate ways. The feuding partners sold the station, and after 11 years, The Great Brooklyn Radio Wars finally ended!

As of late 1946, WBYN had been sold to *The Newark Evening News*, in New Jersey. The price was nearly a quarter of a million dollars (serious money in those days). The station was moved to Newark, where it became known as WNJR. Today, under new owners again, WNJR operates with 5 kW, primarily with popular ethnic programming, directed by Latino and Caribbean audiences.

Eleven years after the Great Brooklyn Radio Wars ended and with pugnacious WBYN gone from town, the beloved and colorful Brooklyn Dodgers would also depart. As Chester A. Riley might have said, "What a revoltin' development this is!" Brooklyn could never be quite the same again.

This report was compiled from a variety of sources, including (with permission), information excerpted from the detailed report on WLTH prepared by Broadcast Pro-File, 28243 Royal Road, Castaic, CA 91384. BP-F can supply (at a nominal fee) historic profiles on any American AM or FM station, past or present. Their catalog is \$1.00.

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TUESDAY—		1:30 P. M. to 3:45 P. M.	10:30 P. M. to 1:00 A. M.
WEDNESDAY—		11:15 A. M. to 1:30 P. M.	6:00 P. M. to 7:30 P. M.
THURSDAY—		3:45 P. M. to 6:00 P. M.	10:30 P. M. to 1:00 A. M.
FRIDAY—	6:00 A. M. to 11:15 A. M.	7:30 P. M. to 9:00 P. M.	
SATURDAY—		1:30 P. M. to 3:45 P. M.	9:00 P. M. to 10:30 P. M.

WVFW had evolved from WFOX, formerly located in the Fox Theatre, to become another battling 500-watt Brooklyn competitor with a patchwork schedule on 1400 kHz.

shift to new frequencies, bringing them into alignment with a new North American broadcasting master plan. Under the new NARBA Treaty, which took effect prior to the four-station consolidation, all four stations were to move from 1400 kHz and

begin operating on 1430 kHz. On May 1, 1941, Gellard returned the WLTH license to the FCC for cancellation. He had become one-quarter owner, vice president, and a member of the Board of Directors of The Unified Broadcasting Corporation of

Astronomers Need YOUR Help

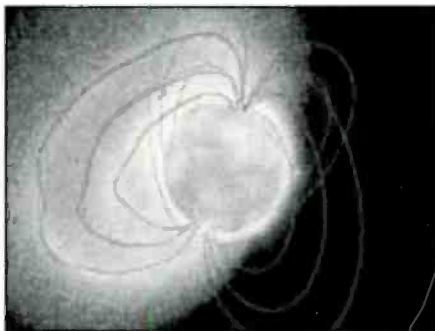
Your Monitoring Data Could Help Scientists Unravel An Extragalactic Mystery!

By Harold Ort, Editor

It happened on last August 27 when a very powerful gamma ray burst, originating some 15,000 light years from Earth, struck our planet at 1022 UTC. A neutron star designated SGR 1900+14 — a so-called "magnetar" or magnetic star — unleashed a torrent of gamma rays so powerful that even at our tremendous distance from the object it tipped the sensors off-scale! But that's not all. Since the bombardment occurred while the U.S. was in darkness, observatories that normally monitor solar gamma and x-ray radiation weren't operational. This burst essentially missed the solar detectors on the sunlit side of the Earth, resulting in a real lack of instrumental data on this extremely rare event.

That's where radio monitors and amateur operators can help. If you noticed anything while listening to the radio on Thursday morning, **August 27th around 1022 UTC (0622 EDT or 0322 PDT)**, please report it via E-mail directly to Paul Harden, NA5N, at <pharden@nrao.edu> or *Pop'Comm* at your earliest convenience. Please include your location (QTH) and if you're an amateur operator, the person you were in contact with at the time, so path trajectories and distances can be determined. Shortwave listeners, scanner enthusiasts, and those who were monitoring the AM broadcast band on August 27 at 1022 UTC are also

"This five-minute extraterrestrial burst was the first known event that ionized the dark side of the Earth."



An enormous amount of gamma rays was released in the August 27 "magnetar" 15,000 light years from Earth. This illustration is courtesy of Dr. Robert Mallozz of the University of Alabama/Huntsville and NASA.

asked to report any unusual phenomena they observed.

Scientists believe this event may have even sparked a major aurora and geomagnetic storm, causing a near-total radio blackout for several minutes.

Please don't rely on "the other guy" to report any unusual fadeouts or blackouts. This five-minute extraterrestrial burst was the *first* known event that ionized the *dark* side of the Earth. The only other two known large gamma ray bursts to hit the planet occurred in 1979 and 1984, and they apparently didn't affect our ionosphere or magnetic field as this one did. The August 27 burst caused ionization to our ionosphere's D layer. An M- or X-class solar flare (from our own sun) normally causes such an event, but this gamma burst was so powerful that absorption was detected down to around 10 kHz. According to Harden, gamma rays may have reached the Earth's surface. ■

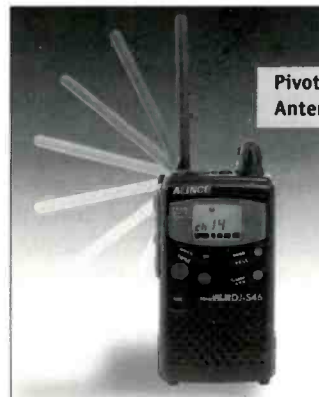
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BY PETER J. BERTINI
<RadioConnection@juno.com>

A LOOK BEHIND THE DIALS

Radio Resources For The Restorer

Finding old radio parts can be challenging. Every radio seems to be missing one item. Are you looking for a knob, tube shield, or something that hasn't been made in 50 years? The obvious source for major components is donor sets; radios that are beyond restoration can be raided for IF transformers, power transformers, tuning capacitors, etc. I had several items on my wish list. I needed some Philco tube shields for my Philco 89 cathedrals. An ad on the Rec.Antique.radio+phono newsgroup yielded two of the needed shields, and the two remaining were found on a Website dealing in vintage radio parts. I suggest you add John Kendall's Web address <<http://vintage-electronics.com/rjy.htm>> to your browser's address book, as it's a great resource for finding many radio items. I have had several dealings with John; his service has been fair and prompt.

Besides the missing tube shields, John was able to supply a vintage Philco electrolytic can that was missing from the newly acquired Philco 89 cathedral. A repairperson had discarded the can and used an under chassis replacement. He also supplied a replacement Philco shadow tuning meter for one of my 1938 Philco sets.

Philco used shadow tuning meters in their more expensive sets. The shadow meter is like an S-meter, but shows the relative signal strength as a bar graph projection on a translucent yellow celluloid dial. It is useful for fine tuning a station or for relative signal strength. I will be covering Philco shadow meters in future columns. Two styles were used. The early sets had the meter assembly bolted to the chassis; model years 1937 and 1938 used meters that clipped to the front panel bezel. Often the fine wire in the meter coil would open, and repairmen would simply discard and bypass the meter as a simple repair. I had been searching for a shadow meter for three years, so I was very pleased when John was able to locate one for me. I am gathering a list of tube suppliers for a subsequent column and am also working on compiling a list of sup-



A portion of Robert Pote's collection of early bakelite radios.

pliers who make radio dials, eszutscheons, and cabinet part replacements.

Grille Cloth Installations

Last month's column covered some of the basics for installing grille cloth and, more importantly, where to find correct replacement material. Several of my radios had destroyed or missing grille cloth, so I sent an order into John Okolowicz for replacements. As usual, his service was prompt and, the product excellent! I promised we would take a practical look at doing some grille cloth replacements this month. I lied. I had good intentions. I even made it to the local crafts store and bought the prerequisite embroidery hoops and adhesives! But, too many projects and not enough time as usual. I'll do the work and take some photos in the near future. Trust me.

A Reader's Collection

Reader Robert Pote from Greenwood, Indiana, wrote us a nice letter and was kind enough to enclose a photo of his

neatly displayed collection of early radio sets. Robert has been collecting radios since the late '50s, and likes the smaller bakelite sets best. Not shown in the photo are his three consoles. At one time, Robert had over 20 consoles and 75 table radios in his collection, but a move to a smaller home forced him to downsize his collection. Robert notes that he belongs to the Indiana Historical Radio Society, and he suggests that others look to local clubs as a good source for information, old radios, and parts.

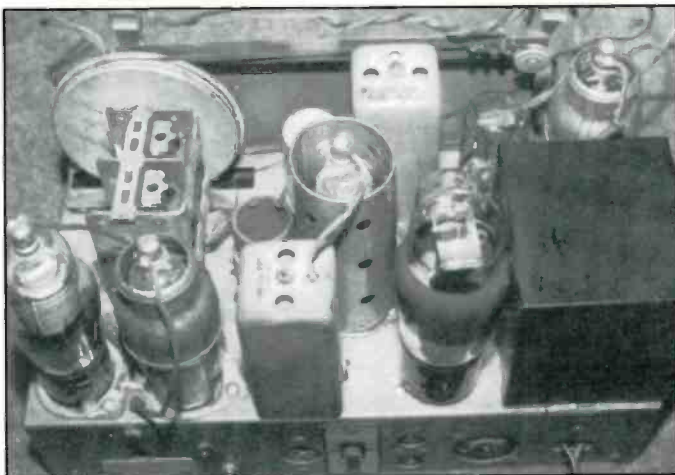
The Indiana Historical Radio Society holds four meetings each year at different locations in Indiana. I would be happy to mention vintage radio clubs in this column, so please send us your meeting dates and location and some information about your club.

My Little Zenith

One of my favorite little radios is a Zenith 7S432 mantle radio. This little chassis sports seven tubes and rivals many small consoles in performance. An old timer gave me the radio several years



A replacement is fabricated for the Zenith switch assembly.



The Zenith 7S432 has seven tubes on a tiny chassis!

ago. The cabinet was shot and the set was missing knobs, push buttons, and the dial glass. It was a sorry looking sight — the sort of orphan one finds hiding under the tables at radio shows. What you see here is a composite of several donor sets. The bezel and dial glass were found at an infrequently held Connecticut radio show. The cabinet came from reader Charlie Warfield, after I saw it sitting on a shelf empty in a photo he sent in. Thanks, Charles! The knobs are reproductions and were obtained from Alan Jesperson¹. The set features two white plastic “hook switches,” either side of the slide rule dial for the bass and treble tone controls. One of the switch assemblies was missing. Alan was able to supply us with a reproduction hook lever, but I wasn’t able to find an exact replacement for the switch. Fabricating a small aluminum bracket, that, along with some industrial adhesive, is used to mount a miniature slide switch to the bezel, solved this problem. More adhesive connects the hook lever to the slide switch.

This poor radio sat around in various states of disrepair for some time until all the pieces finally came together! I had refinished the cabinet, and it is one of my first attempts at using lacquers. It looks nice, but the coloring — done with toners — isn’t quite correct for this set. The finish is a little darker than it should be. Luckily the column photos aren’t done in color, so I won’t get too much hate mail from the Zenith fans.

One other problem with this radio is that Zenith used a photo-etch finish on the wood bands that provide contrast across the top and bottom of the set. At first glance, these bands appear to be of a lighter wood veneer, but in reality they

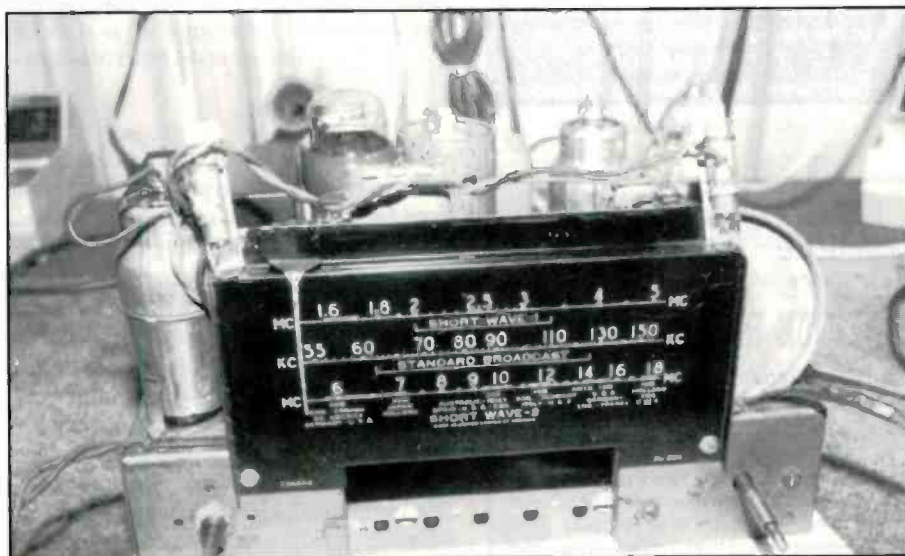
are produced using a decal-like material. Any attempt to strip the cabinet would also destroy the finish, as I learned the hard way on cabinet number one. Philco was guilty of using photo-etch finishes on many of its less expensive cabinets. The photo-etched decal imparted some nice grain to cheap birch veneer; but many of those early finishes have now deteriorated beyond salvation.

Notice that the set has antiqued brass bezel. The bezel had darkened with age — it was almost black when I found it. The antiqued brass finish was restored by gently rubbing the bezel with 0000 steel wool — just enough to bring out the brass highlights and no more! Two coats of clear spray lacquer were applied to help preserve the metal finish. This radio is fairly common; I have seen several at radio

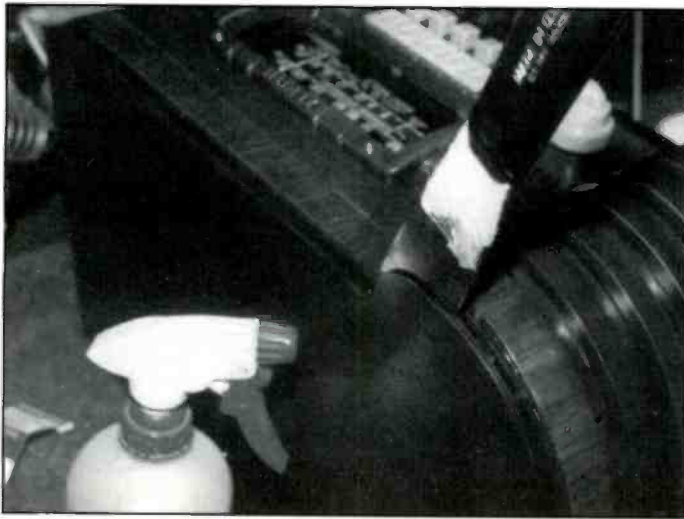
shows over the past few years. In good condition, the 7S432 is worth about \$125.

Veneer Repairs

After refinishing the cabinet, I noticed the top veneer was beginning to delaminate from the cabinet. I probably could have left it alone, but I was afraid something might snag the veneer, breaking or chipping it. Fortunately, this is a very easy repair. Early radio manufacturers used animal hide glue to hold the cabinet and veneers together. Over time, heat and moisture can weaken the glue bond, so it isn’t unusual to find many old cabinets with loose veneers. One trick used by cabinetmakers involves reactivating the old hide glue if enough of it still remains. First, some water is spritzed into the gap



The Zenith covers the AM broadcast band and two shortwave bands.

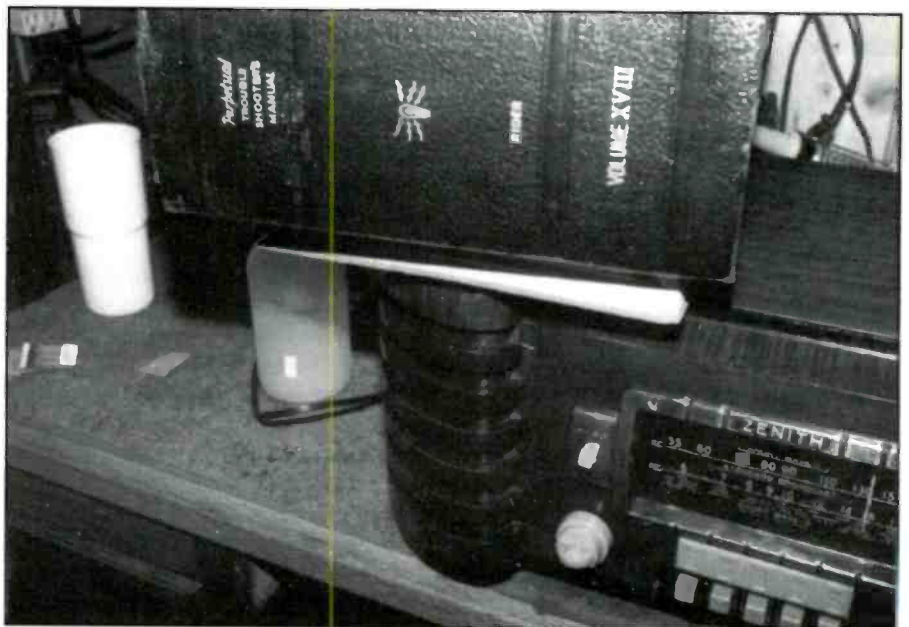


Wetting and heating with a hot putty knife can often reactivate the old hide glue.

The old glue must be removed before new glue is applied. The glue is dampened, and a matchbook cover is used to scrape out the residue.

between the veneer and its subsurface. For the next step, a putty knife is heated over a gas flame until it is quite hot (not red-hot!), and it is then quickly thrust into the gap. The heated blade almost instantly turns the water into steam, which mixes with the old glue residue to reactivate it. The piece is clamped until the glue resets.

I use carpenter's glue for my veneer



Rider volume 18 has enough heft to serve as a "clamp" to hold the veneer down as the glue sets. Note the brass highlights of the antiqued brass escutcheon.

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repairs. But first, all of the old hide glue needs to be removed to provide clean surfaces for the carpenter's glue to adhere to. Simply trying to add fresh glue over the old glue doesn't work very well in the long run. I simply spray a little warm water into the gap and use a putty knife to mix the water with the old hide glue. This forms a goop with the consistency of wallpaper paste. Next, I use index cards or matchbook covers to slowly scrape out as much of the old glue as possible. Once the old glue is removed, I let some woodworker's glue seep into the gap. Again, a putty knife can be used to help persuade the new glue to reach the deeper portions of the crevice.

Once the glue has been allowed to flow into the crevice, the veneer needs to be held in place until the glue dries. Some sets may need woodworking clamps to do the job properly. I was able to get by using my *Rider volume 18* (a work of ponderous proportion and weight!) to do the job! Be careful! If too much pressure is exerted, all of the glue can be driven from the joint, resulting in a weakened and poorly glued repair. Use a damp rag to wipe away any excess glue that exudes from under the veneer.

Reference 1. Alan Jespersion, Great Northern Antiques, P.O. Box 17338, Minneapolis, MN 55417. Phone 612-727-2489, 8 a.m. to 6 p.m.

How I Got Started

North To Alaska: Congratulations To
Marty Foss, AL7JF Of Talkeetna



Pop'Comm reader Marty Foss at his well-equipped monitoring post and ham station in Alaska.

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.

Each month we'll select one entry and publish it here. Submit your entry only once; we'll keep it on file. All submissions become the property of *Popular Communications*, and none will be acknowledged or returned. Entries will be selected taking into consideration the story they relate, and if it is especially interesting, unusual, or even humorous. We reserve the right to edit all submitted material for length and grammar, and to improve style.

The person whose entry is selected will receive a one-year gift subscription (or one-year subscription extension) to *Popular Communications*. Address all entries to: "How I Got Started," *Popular Communications*, 25 Newbridge Road, Hicksville, NY 11801 or E-mail your entry to <popularcom@aol.com>, letting us know if you're sending photos.

Our January Winner

Pop'Comm reader, Marty Foss of Talkeetna, Alaska writes: "I remember a summer night in 1958. As a youngster of six, I listened to my newly-acquired portable transistor radio. This radio, a little gem of its day, was on the cutting edge of technology for the late '50s. As I tuned the small dial, stations such as WOAI, San Antonio; KFAB, Omaha; KOMA, Oklahoma City and KOA, Denver, somehow traveled through the summer night. This made a lasting impression on me. Here I was, a small child, secure in my parent's home in New Mexico. These stations were coming hundreds of miles through the night sky to entertain me with music, news, all-night truck driver shows, and all kinds of entertainment — all for me! I was impressed!

"Now, years later in Alaska, I am still a mediumwave and shortwave listener. Also, I'm very active in amateur radio as AL7JF on HF using CW and SSB modes. How could I have realized as a six-year-old what excitement, pleasure, and fulfillment radio would bring me!" ■

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Radio Resources

INTERESTING THOUGHTS AND IDEAS FOR ENJOYING THE HOBBY

Beaming Up For Better Reception

As you get deeper into the fascinating world of radio, your outside antennas are probably getting taller. Last month we talked about the omnidirectional collinear antenna for improved VHF and UHF reception. With the collinear, gain is achieved by robbing the wasted energy in the sky lobe, and concentrating transmission and reception capabilities down close to the earth with a low angle of radiation. The more collinear elements stacked vertically, the more gain down low to the horizon, where VHF and UHF radio signals are coming from.

Ham radio operators on 50, 144, 440, and 1296 MHz can also enjoy improved omnidirectional coverage by switching from a unity gain ground plane over to a 6-dB to 9-dB gain collinear. The ham radio collinear antenna is usually encased in a white fiberglass radome, and may be constructed to cover up to three bands of operation. Just keep in mind that tuned elements are placed end to end (vertically on top of each other) to redirect energy down close to the horizon in all directions.

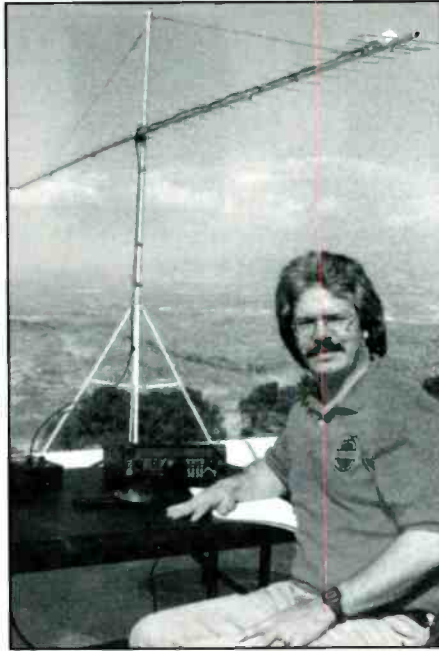
The Beam

As you continue to get more serious about this fabulous hobby of radio communications, you will naturally want to pick up more distant stations and pull in radio signals that your buddies with a simple ground plane can't even hear. Or maybe there is a distant VHF, UHF, or even a shortwave high-frequency transmission you just can't seem to pull in clearly. Finally someone suggests going to a beam to improve reception and reduce the amount of electrical noise you are picking up in the unwanted directions.

Q. The beam antenna will exhibit gain in how many directions?

- A. One direction in the major lobe
- B. Bi-directional
- C. Omnidirectional
- D. Undetermined various directions

This is an easy question. Just like your television antenna, the ham radio and scanner beam offer gain in one general direction, generally referred to as the main



Here's Chip Margelli, K7JA with his home-brew 70-centimeter beam.

lobe. The shorter elements of the beam, called directors, point toward the desired distant station, and the coax cable hooks up to the rear of the beam to the driven element. In back of that are longer elements, called reflectors. Beams can be mono-band, dual-band, tri-band, and can even be instructed to cover a large amount of radio spectrum with their directive pattern.

Q. The driven element of a beam is actually a:

- A. Parabola
- B. Long wire
- C. Dipole
- D. Reflector

The driven element of a beam is actually a dipole cut to the desired frequency of operation. Or it might be a dipole with multiple traps hanging onto the element for multi-band reception. The dipole is generally one-half wavelength long and, for worldwide ham bands, it will usually have a loading coil and possibly a capacity hat to create resonance at the specific frequency where you want the antenna to perform best.

Some beams are fed with open-wire transmission line, yet other beams may be commercially available with a matching transformer to accept a direct feed with conventional coaxial cable.

Q. What is another name for that impedance matching transformer?

- A. Zepp
- B. Direct dipole feed
- C. PL-259
- D. Balun

Your answer is balun — balanced to unbalanced. The dipole, fed at the center, looks balanced. Coaxial cable is unbalanced, so the job of the balun is to couple the coax directly to the driven element (the dipole) of the beam and provide a proper match for best performance.

The driven element usually sits on the beam's boom and is located slightly back from its midpoint. At the rear of the beam is a reflector element that will (as the name implies) reflect the received or transmitted energy back into the dipole and reinforce the transmitted or received radio wave. Specific phase relationships must be maintained when computer modeling the beam and its associated elements to ensure the precise placement of the reflector.

In front of the driven element may be one or more *directors*. The directors assist in the intensifying of the incoming and outgoing signal to enhance the radio wave that is captured by the dipole. On the worldwide ham bands, there might be as many as eight directors and a couple of reflectors. On VHF and UHF frequencies, there might be as many as 30 or 40 directors with two or three reflectors at the rear.

Q. Which singular component of the beam leads to increased forward gain?

- A. Boom length
- B. Number of reflectors
- C. Number of driven elements
- D. Number of directors

Hams call them long boomers. Your better half will call it "too long on our roof." But as a radio operator, you will soon see that the mathematical calculations for antenna gain are most influenced

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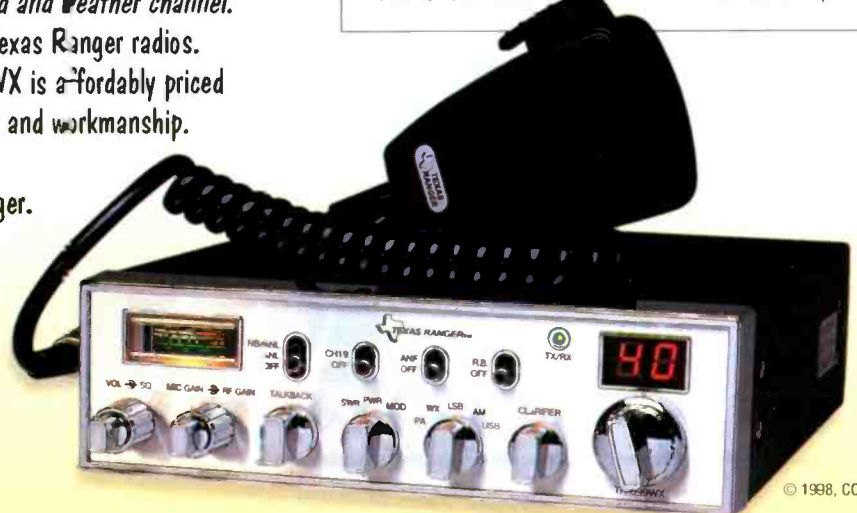
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by how long the boom is, not how many elements on the boom. I will take a 20-foot boom, five-element, 6-meter beam over a 10-foot boom length, 6-meter beam with twice as many elements. The beam with the longer boom will usually achieve the highest amount of gain.

A beam with considerable gain in one direction will also have two distinct nulls at about 45 degrees off of the main lobe. And a good beam will also have a good front-to-back ratio, where signals to the side and rear are rejected and reduced. Those two deep nulls may be a great way to lower noisy power line interference from power poles that aren't in line with your main radiation pattern. Many times you can swing a beam and find the exact spot where the desired signal is coming in relatively strong off of the main lobe, and you find the exact "sweet spot" to null out that noisy power pole off to the left or right side of your beam's heading. Or maybe you have a lot of noisy power lines directly behind the direction you want to pull in. The beam will cause those signals to be dramatically attenuated when it is pointed 180 degrees away.

However, if you have noisy power poles in direct line with the distant station you are trying to pick up with your new beam, you're out of luck because everything will get amplified from the one general direction.

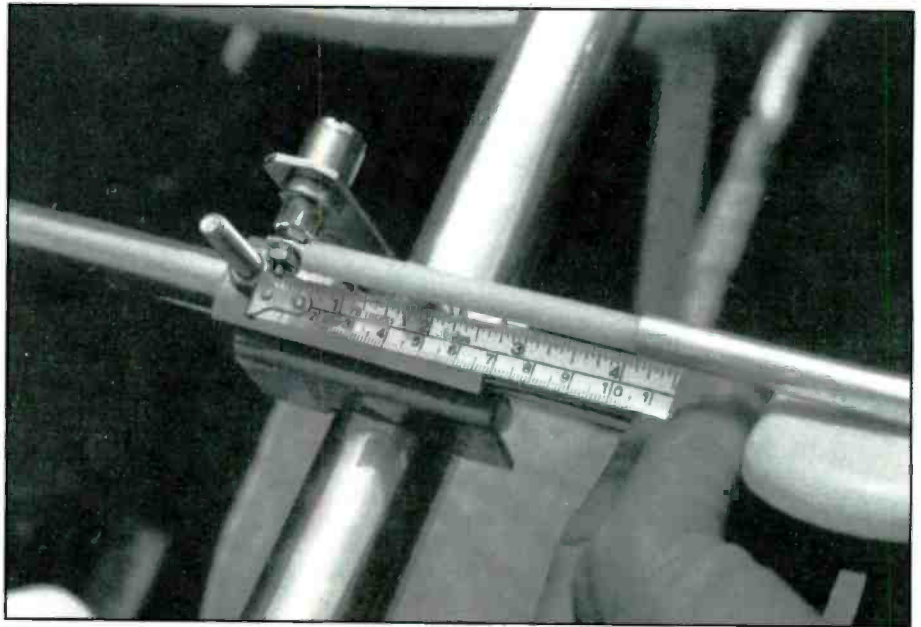
The Versatile All-Band

Q. What do you call a beam that may operate over hundreds of megahertz?

- A. Quagi
- B. Log periodic
- C. Tri-bander
- D. Discone

If you answered discone, you are probably thinking of a frequency-independent, omnidirectional antenna that might work from 50 to 2000 MHz. But it is not a beam — it's a unity gain receiving antenna that pulls in signals from all directions. In fact, many times on lower frequencies the discone is actually minus gain over a regular halfwave dipole.

It is the feature of a log periodic to cover a wide range of frequencies at low SWR, while still offering gain in one direction and rejection in all other directions. You can spot a log periodic antenna by its elements, which get progressively shorter in a uniform manner. The longest element may determine its lowest frequency of operation, and the shortest element may determine its highest frequency of oper-



We also used the MFJ SWR analyzer to refine the driven element gamma match.

ation. The big monster quads normally cover from 10 to 30 MHz, with everything in between. For VHF and UHF scanning, log periodic antennas normally cover from 50 to 1200 MHz.

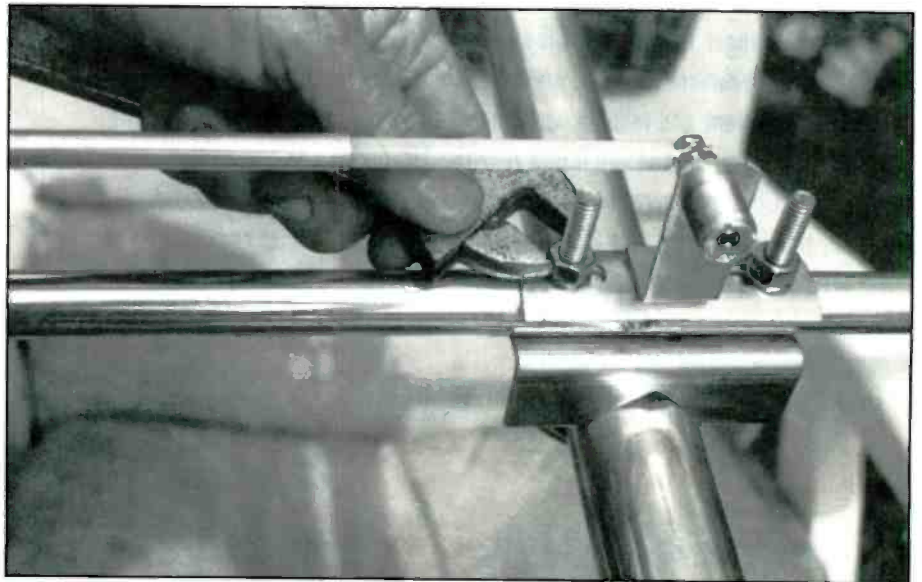
While you might think that a log periodic antenna is the best way to pull in those distant stations on both low band, high band, and UHF, you may find that its rather dismal forward gain capabilities don't offer that much radio range extension. But they do help where you might have noise in back of the beam, and the desired signal at the front of the beam. But don't expect a log periodic to do nearly as well as a beam cut to a specific fre-

quency, or a beam that may be cut for two or three specific bands of frequencies.

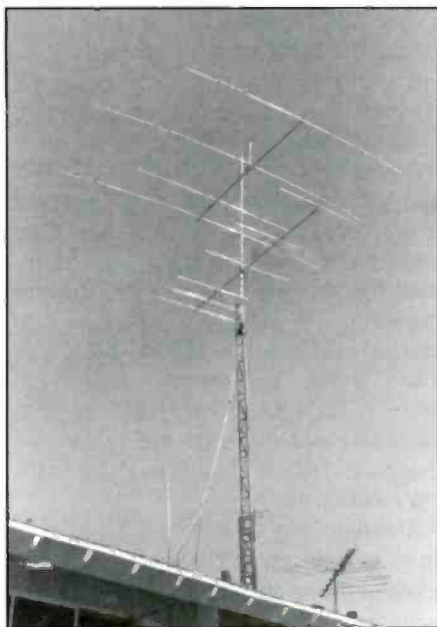
The majority of hams, shortwave listeners, and scanner enthusiasts will buy the beam that has been commercially manufactured and that's pre-drilled and cut for "easy" assembly. And if you regularly put together this one type of beam, the assembly indeed gets easier. But if you have never assembled this particular type of beam, plan to spend a day or two finally getting it on the air.

Most commercially made beam antennas come with a good set of instructions and everything included inside the box.

"Here at Cushcraft, we weigh every



All Cushcraft hardware was stainless steel — more than we can say about our wrench!



Gordon's beams bring in the DX!

beam antenna before it gets shipped out, allowing us to make absolutely sure everything is included — right down to the last nut or washer,” comments Ed Hammond, WNII, National Sales Manager for Cushcraft Communications Antennas. “We also protect the unassembled beam elements by wrapping them in soft padding, plus re-weigh the plastic bag full of the loose screws, washers, and mounting clamps,” adds Hammond. “And many of our ham beams can be used quite nicely on VHF and UHF scanner frequencies, too.”

I wish all manufacturers of unassembled beam antennas would double-bag all of the screws, nuts, and bolts. I can't tell you how many times I have opened up a big beam antenna, and found loose nuts and washers rolling around on the inside, and not knowing how many actually slipped out of the packing box. Cushcraft does a nice job of protecting all the hardware and elements from leaking out during shipment.

Assembling a beam antenna for either worldwide ham radio use or VHF/UHF ham and scanner reception, is not an overly complicated deal but it is a job that takes time and patience.

Q. What is the most common error in assembling a beam?

- A. Wrong element lengths
- B. Wrong size hardware
- C. Reversal of key elements
- D. Misalignment of elements

One of the most common errors is not measuring individual screws and hose

clamps. This is especially true on VHF and UHF beams where the clamps and screws are slightly different, but almost look the same. If you use the *small* hose clamps on the elements that needed *very small* hose clamps, you will find that the *very small* hose clamps left over won't fit the other elements that need *small* hose clamps! The same thing is true with screws. If you use up all of the screws that are a little too long, all of the remaining ones will probably be a little too short. So it's always a good idea to let your better half (the detail person, right?) lay everything out as identified on the parts list.

Measuring of the elements is straightforward. Be sure to have a tape measure and a felt tip pen to mark element placement. Most beam instructions go into great detail on exactly how to assemble the boom, how to get the elements onto the boom, and provide suggestions on how the coaxial cable gets matched to the driven elements.

End wrenches are very helpful, and a plastic socket set is useful in tightening down the hose clamps. Never use a ratchet socket on hose clamps because you can easily strip them by over-tightening. And watch out when tightening element

bolts. If you tighten them down too much, you can crease the aluminum and then you will have big problems ahead with a loose connection.

I recommend conductive grease on all elements. This does two things: it will maintain a good DC contact, driving out corrosion, and it will also keep the two aluminum elements from seizing up. If you continuously work two pieces of aluminum elements together, they all of a sudden become fused, and you will probably never get them apart again. The conductive grease helps.

I also recommend non-conductive, double-braided Dacron/polyester rope to add support to the boom. If you have a boom over 10 feet long, it will tend to droop. The polyester black line is UV resistant and should last for as long as your beam is up.

Finally, use Coax Seal™ putty on the connection point where the coax meets the antenna. Use this putty to seal up all exposed PL-259 connections, plus any other connections on a balun to driven element. I also use Coax Seal on all of my black tape connections to keep the tape from eventually unraveling.

By the way, when unwrapping black



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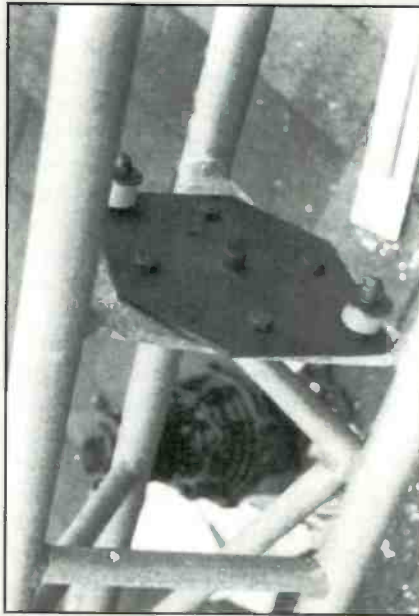
CIRCLE 61 ON READER SERVICE CARD

Taking Care Of Your Rotator

If you live in a windy area, your beam antenna rotator may be subjected to stresses beyond what the rotator housing and internal brake may take. Or, if you are turning a large array of directional antennas, the starting and stopping torque might be too much for the rotator to handle.

Yaesu solves the problem with all of their rotators with an optional assembly called "absorber joint," part no. GA-2500. The plate mounts below the normal Yaesu rotator, and compensates for up to 2 degrees of offset from vertical, and significantly reduces stress to rotator gears and reduces the chance of binding by rubber cushions absorbing the shocks.

The installation is simple. Install the absorber base onto the tower's rotator mounting plate. You may need to drill new holes for the Yaesu rotators. Now slide the rotator and rotator base over the rubber cushions and onto the base plate. Tighten the two plates together using the supplied hardware. That's all there is to it! The plate has worked well for many of my installations. While it is designed specifically for a Yaesu rotator, re-drilling it could accommodate ANY



The Yaesu rotor plate installed on the tower pad.

rotator. The absorber plate is designed for in-tower use only where the mast protrudes through a strut bearing at the top. Remember, it is not designed for outside tower mounts.

ers available for checking antenna resonance. The SWR analyzer saves the time and effort of running back and forth between your rig and the antenna to see if the antenna is properly tuned. MFJ makes several different varieties of SWR analyzers. I just finished reviewing their new MFJ 259B, and it is absolutely the finest piece of antenna analyzer equipment I have ever worked with. Besides measuring SWR, it can determine return loss and reflection coefficient, distance to coax faults, percentage transmitted power to the lobe, velocity factors, testing tuners and stubs, testing baluns and chokes, and a host of other neat things for you antenna gurus.

A simple way to test your beam is to tip it straight up in the air, putting the reflector on the ground and the driven element skyward. Now, sweep the antenna with the SWR analyzer, and note where it is resonant. An antenna down close to the ground is indeed influenced by ground capacity.

Q. What happens to resonant frequency the higher up an antenna is mounted?

- A. Stays the same
- B. Goes higher in frequency
- C. Goes lower in frequency
- D. Periodically goes higher and lower

When you get your beam antenna at least one wavelength above the ground, it will usually operate slightly higher in frequency than where you originally tuned it on the ground. After a couple of wavelengths up, this effect is not noticeable. But if you tune a 6-meter antenna just six feet off the ground for perfect resonance at 50.100, it will probably be perfectly resonant at 50.250 MHz when you get it up over a wavelength on that tower or support mast. But remember, the higher the antenna, the higher the resonance.

Anytime you're working with antennas and sharp elements, have everyone around you (including yourself) wear protective eyewear. Plastic glasses or goggles can prevent eye injury.

Always watch out for overhead high voltage wires! In fact, even the little junction box to your home phone system can ring your bell if it touches one of the antenna elements while the phone is ringing. Be careful!

So consider the directional beam antenna as a great way to increase signal in one direction, and *decrease* noise coming in from the tail or at the sides.

You'll notice a difference! ■

tape, don't pull it to break it. This causes it to stretch, and ultimately unravel. Cut it with a pair of scissors, and it will probably never unravel — especially if you use Coax Seal.

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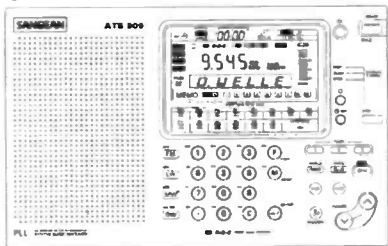
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The Ham Column

BY KIRK KLEINSCHMIDT, NT0Z

GETTING STARTED AS A RADIO AMATEUR

Morse Code — Friend, Not Foe!

While the FCC is busy revamping amateur radio licensing and many hams are rallying around the “kill the code” flag, why bother with a column about boosting Morse code performance and enjoyment? Is the “Ham Columnist” a code elitist? A die-hard Morse proselytizer to the bitter end? Neither, really.

Although I do enjoy slinging dits and dahs, my reverence for the ancient mode comes mostly from its practicality. Morse code blows away SSB when conditions are poor, you’re running low power, you have a crappy antenna, you’re running a homebrew rig, you’re operating portable in the field, or you just *have to* work DX, and so on.

When the FCC eliminates its Morse code licensing requirement (it’ll happen sooner or later, international treaties notwithstanding), ham radio will likely benefit — Morse code ops included. The way I see it, when the code barrier falls, those hopefuls who’ve been chomping at the bit can become hams and start hunting the SSB subbands for contacts — leaving the code subbands for true aficionados.

Obviously, Morse code *isn’t* for everyone, but I’ve noticed that most ops’ frustration with the mode comes from not really knowing how to use it effectively. Maybe they didn’t give it enough time, or maybe they didn’t become proficient enough to “get into the groove.”

If you’re willing to give it a go, this month’s column is full of CW operating advice gleaned from expert ops. Practice makes perfect, of course, but practicing correct techniques right from the start can reduce the time it takes you to perfect your Morse code skills and reduce the time it takes to actually *enjoy* the experience.

First Things First

First, forget about calling CQ for a “good long while.” Until your confidence and proficiency are suitable, you should look for big, fat CQ calls from *someone else* — someone with a good fist who is sending at a speed that’s comfortable for you to copy. Once you’ve replied to the

other guy’s CQ, you’re almost home. If there were no other hams, you’d be the only game in town! But what happens if others respond, too? Your biggest challenge is to be the caller the CQer responds to. And don’t think that having a big signal is all it takes. In fact, timing and knowing exactly where, when, and how to transmit makes all the difference.

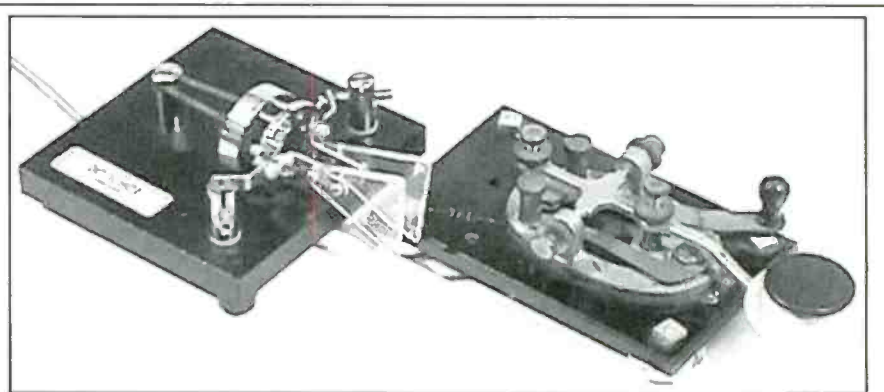
far away, the CQer won’t hear you. If you’re right on frequency from the start, the CQer will hear you right in the center of his receiver’s passband. And chances are good that he’ll hear *you* instead of some other caller who is slightly off frequency. (DX stations sometimes prefer off-frequency replies to manage the sheer volume of callers.)

Transmit Here

Where to transmit is almost always *exactly on the same frequency as the station calling CQ*. This is called *zero beating*, as the audio tone produced in each receiver is at the same pitch. Most stations tune only 1 or 2 kHz when listening for replies to their CQs, so if you’re too

Transmit Now

Now that we know *where* to call, it’s time to talk about *when* to call. This is pretty simple. As soon as the CQing station finishes calling and signs K, immediately start your reply. If you hesitate, another station might jump in. If you transmit first, the other station may wait,



The J-38 Straight Key

The J-38 straight key (right) means a lot to me. The classic military coder was given to me by an old timer when I was 12 years old. The tacky rubber feet cost a penny a piece at a local surplus store, and the poker chip “knob accessory” was purloined from my father’s den. I used this key to make hundreds of contacts as a Novice. As much as I love this key for nostalgic reasons, *I can hardly stand* to make contacts with it today! Blasphemy? Nope. Just reality. Sending clean code with a straight key is an art form that I no longer relish. If straight keys — and most beginner keys are nowhere near the venerable J-38 when it comes to quality — are the bane of your Morse code enjoyment efforts, put “them things” in a drawer and get a decent keyer and paddle!

Although I had a few — mostly junky — paddles before I acquired the Bencher (shown at left), I found that even the most modest paddles can transform Morse sending from torture to pleasure (you’ll need a keyer, of course).

I stop short of sending CW with a computer and keyboard, however, because I enjoy being “involved” with the process of sending Morse code. Hey — hams are funny about this stuff! The moral of the story is: If you’re *really* going to explore the code, find the tools *you* like best and use them.

not wanting the competition. As long as you're on frequency, the CQer will start copying the first reply he hears, which is hopefully yours.

Here's an old-timer's trick that still works today. Many ops use full break-in keying (QSK) while they're calling CQ. That is, they can hear receiver audio between the dits and dahs they're sending. If you send something to get their attention — a string of dits, perhaps, or a long dah — the QSK CQer usually stops to hear what's going on. Quickly, just after the CQer pauses, give the op a quick call (his callsign DE your callsign AR) and you've snagged him! There might have been a half-dozen ops waiting to reply to the same CQ! Don't abuse this tactic — and be discreet. If the CQer isn't QSK, you'll simply interfere with his call and that's not a display of good manners.

Transmitting Tips

How to send is more complex than where and when to send. Let's break it down into simpler parts.

- Send at the same speed the CQing op is using. He's sending at a speed that's comfortable for him, and he'll want your reply to be in the same ballpark.

- Learn to adjust the length of your reply. If the CQing op sounds savvy (good fist, strong signal), a short reply will usually do the trick (his callsign once and your callsign once or twice). If conditions are poor or if the sending op sounds less sure of himself, send both callsigns two or three times. Experience will help you to get the feel for this.

- Your Morse code should be crisp and accurate. Nobody wants to answer calls from sloppy senders. In fact, many sloppy calls are ignored! And these callers thought the bands were dead or that their signals were weak.

- Practice sending code off the air until yours sounds good. Have a friend who is a good CW op listen to your code. Work toward excellence! This one point makes all the difference when conditions are less than ideal.

- Make sure your signal is clean. Don't overdrive your rig or do anything foolish. And don't run out and buy a linear amplifier. Keep your rig tuned and adjusted properly and put up the best antenna system you can manage.

More Info

- Learn from your on-air experiences. Carefully see what works and what

doesn't, and always stay in the realm of good behavior.

- Learn to copy code in your head without having to write it down. This makes Morse code more fun and less work.

- Don't just copy what the other op is sending. Learn to anticipate — within reason — what he's thinking and try to understand what he's hearing on his end

of the radio path. That kind of approach will help you become a successful CW op who has successful contacts.

So, there you have them: expert code tips. Will I hear *you* on the Morse code subbands? Keep your photos, letters, and suggestions coming to "The Ham Column," c/o *Popular Communications*, 25 Newbridge Rd, Hicksville, NY 11801.

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The Zig-Zag Dipole

Recently I got an E-mail that really sent me back into "nostalgialand." The *Popular Communications* reader lamented that he could only put up an antenna that was a little bent. Well, actually, it was a lot bent. **Figure 1** is a reasonable rendition of what the fellow described, but with the sizes for 40 meters that I had many, many years ago.

In the late 1950s I lived in Arlington, Virginia. My parents' house was on a standard quarter-acre lot, with power lines coming in from the rear property line in such a way that I could not put up a wire antenna back there. The only alternative was running one to a tree in our neighbor Mr. Collins' yard (he was sympathetic to a young ham operator because he was a radio engineer for the Voice of America).

One end of the antenna was supported from the roof of our house, and the center was tied off in Mr. Collins' maple tree. The other end drooped back towards the ground at some convenient, but unplanned angle. If you look at this zig-zag dipole from above, the two wires more or less form an approximate right angle (more or less... I never measured it). Because the antenna was designed for the 40-meter ham band, the elements were each 33 feet long, for an overall half-wavelength run of 66 feet. The center was connected to a length of 75-ohm coaxial cable that went to the rig (or receiver if you are an SWL). I show a mast in **Figure 1** (which is what the reader described), but mine was installed in a tree. It actually worked pretty well.

Indeed, I've had a number of odd-schtick antennas over the years and they have worked more or less well. My comparison is always the half-wavelength horizontal dipole because I don't know how to make an isotropic source antenna (which only exists in antenna textbooks).

The reader wanted to know what the pattern would look like. My recollection from more years ago than I care to admit (my knees remind me, however) was that it seemed most sensitive in the directions that one would expect from a dipole. To answer the question, and see if my mem-

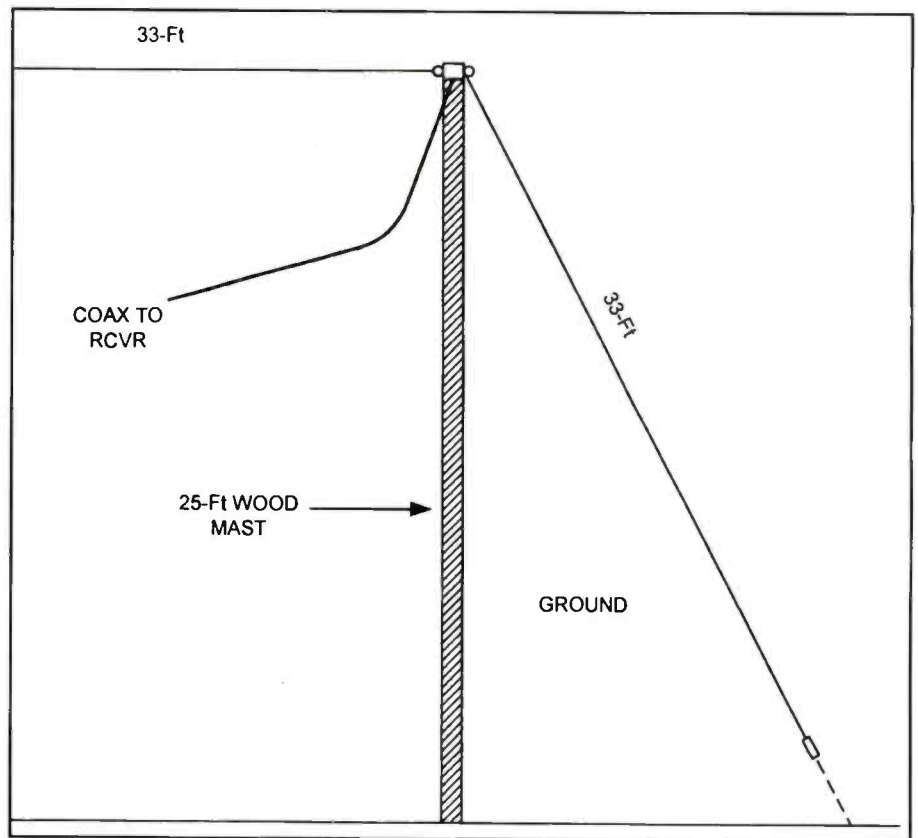


Figure 1. A reasonable rendition of one reader's antenna, except cut for the 40-meter band.

ories were faulty (after all, I survived the 1960s), I decided to do a little modeling.

I've reported on my modeling program before. I use Nec-Win Basic by Nittany-Scientific. It's a nice, low-cost Windows version of NEC-2 code, and works quite nicely. If you are interested, type in "Nittany-Scientific" in your Web browser and see what pops up.

Figure 2 shows the azimuthal radiation pattern of the antenna described in **Figure 1**. The antenna length runs from the 0-degree to 180-degree points on the compass. That means the nulls off the antenna's ends are at 0 and 180 degrees, while the main lobe maxima are at 90 and 270 degrees.

The standard dipole pattern is roughly a figure-8 with the nulls and maxima exactly as described above. And, I might

add, exactly as you see in **Figure 2**. Note that the main lobes are a little bit distorted. The actual pattern for a half-wavelength 40-meter dipole is shown in **Figure 3** for comparison. This pattern is cleaner than the pattern in **Figure 2**, but only moderately so.

So what's the bottom line? If you have the space, then a half-wavelength horizontal dipole, properly installed, is a darn fine antenna. It's cheap, easy to erect, and easy to maintain. But if you don't have enough space to put up a half-wavelength dipole in the proper way, then put one up the best way you can. No, it's not going to work as well as a properly installed dipole, but it's probably going to work. And guess what? It'll surely work better than a 20-foot spritz of hook-up wire run along the living room baseboard molding — which

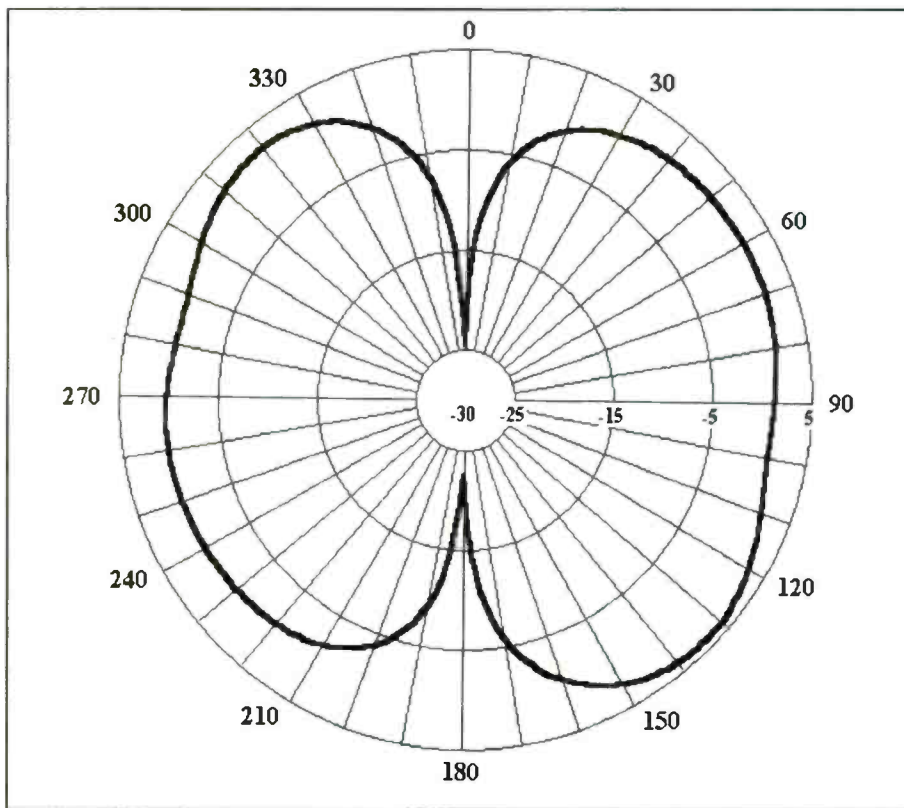


Figure 2. Azimuthal radiation for the antenna shown in Figure 1.

is one of my current antennas. It doesn't work for much of anything, but it works well enough for my present purpose.

A Product Worth Trying

One of the nasty things about listening to shortwave, especially in the medium-wave and "tropical bands," is the rather raucous noise from power line harmonics. Normally, one would not expect much of a problem from the harmonics of a 60-Hz source when listening to short wave bands. After all, there's a lot of distance between, say, 5000 kHz and 60 Hz. But there are a couple of problems with that argument (not the least of which is experience... go listen to it!). First, the high powers (kilowatts) mean that harmonics are proportionally stronger. Second, high voltage corona and arcing can cause RF noise. Third, even at 120/240 volts, loose connections, appliances, dimmers, and a host of other things will cause RF noise. It goes on ad nauseam.

Now there's a product that can do something about it. MFJ Enterprises, Inc. P.O. Box 474, Mississippi State, MS, 39762; 601-323-5869 (voice); 601-323-6551 (Fax); 800-647-1800 (orders only); Website: <<http://www.mfjenterprises.com>> has a new product. Their Model

MFJ-1026 eliminates locally generated noise *before* it reaches the receiver. It looks like an active antenna (which it can also be used as), but plugs in the line between the "real" antenna and the receiver's antenna jack. It cancels noise in the signal that matches the noise picked up by its little whip antenna.

Other MFJ products worth looking at are their VSWR analyzers. I use the MFJ-259 analyzer and love it. Shortwave listeners have a problem making antenna measurements that hams do not. They cannot connect a transmitter to the line to measure VSWR on an RF wattmeter or VSWR meter. But both hams and SWLs (or scanner owners) can use a VSWR analyzer (one model or the other will cover the HF and lower VHF bands.)

The MFJ-259 instrument has an adjustable signal generator and a built-in frequency counter for precise adjustment of the test frequency. It will then read the VSWR and radiation resistance of the antenna. That makes it easier to do impedance matching and to precisely find the resonant point of the antenna. It will also allow you to make a plot of the VSWR over a frequency band with only a few minor measurements.

MFJ recently announced a follow-on "B" model (i.e. MFJ-259B). According

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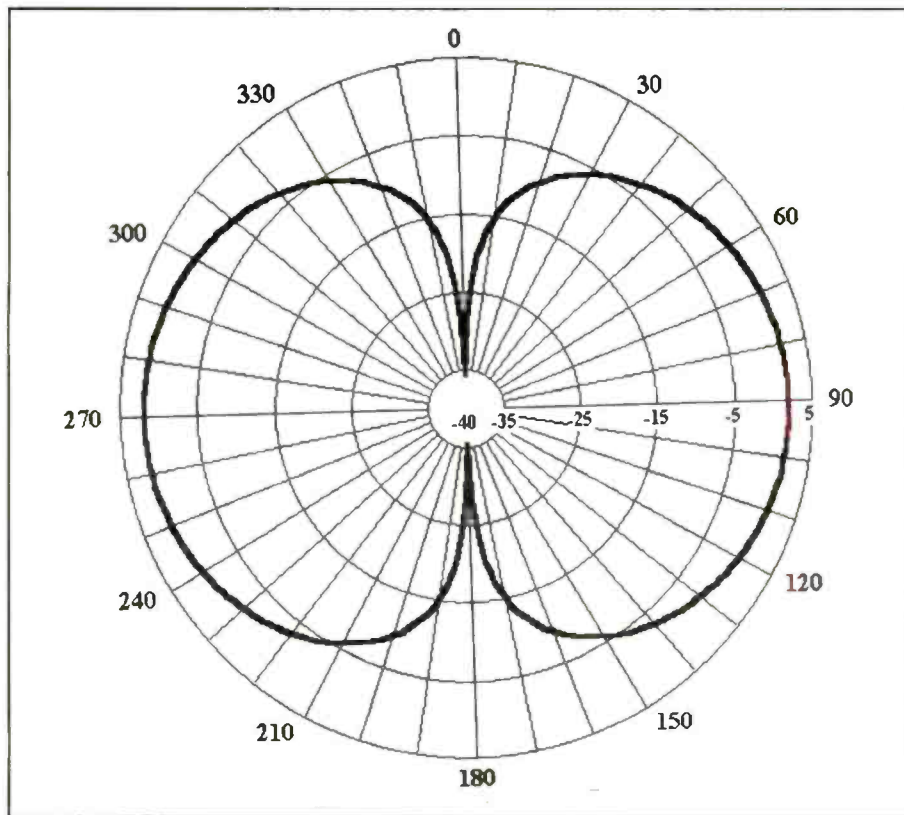


Figure 3. The actual pattern for a half-wavelength 40-meter dipole.

to the advertising, it will do a lot more than the original MFJ-259 model. I hope to get one and report on its use in a future "Antennas & Things."

Boat Anchors

One of my passions is antique radio (a.k.a. "boat anchors"). I am slowly reconstructing the ham shack I had in 1960. Most recently, I obtained a (non-working) Hallicrafters SX-28A Super Skyrider that I intend to rebuild. "Real radio guys know that real radios glow in the dark." If you are similarly inclined, and want to get in touch with other antique radio buffs, you might want to get on the boat anchors list. They will give you a one-month free trial to their list server, but after that require a modest contribution to help with expenses. Contact Boat anchors via E-mail at: <listown@jackatak.theporch.com>.

Connections

I can be reached by snail mail at P.O. Box 1099, Falls Church, VA 22041, or via E-mail at <carrijj@aol.com>. I welcome your comments and questions. ■

Getting Started Videos



Getting Started in Ham Radio—How to select equipment, antennas, bands, use repeater stations, grounding, basic soldering.



Getting Started in Packet—De-mystify packet. Info on making contacts, bulletin boards, networks, satellites.

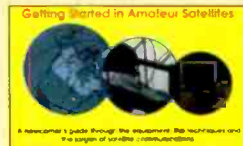


Ham Radio Horizons—Step-by-step instructions for the prospective ham on how to get involved.

Getting Started in VHF—Intro to VHF. Repeater usage, packet, satellites and more exotic VHF op modes.



Getting Started in Amateur Satellites—How ops set up stations. Locate and track ham satellites.



Getting Started in DXing—Top DXers share experiences with equipment, antennas, op skills and QSLing.



Getting Started in Contesting—Advice and op tips from Ken Wolf, K1EA, K1AR and others!

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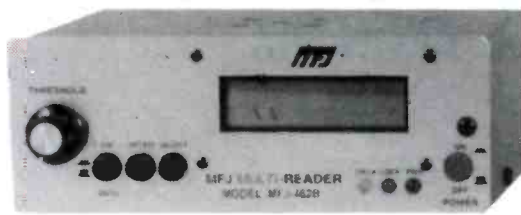
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Also available in PAL format.



Tap into secret Shortwave Signals

Turn mysterious signals into exciting text messages with this new MFJ MultiReader™



MFJ-462B **Plug** this self-contained MFJ MultiReader™ into your shortwave receiver's earphone jack.

\$179⁹⁵ Then watch mysterious chirps, whistles and buzzing sounds of RTTY, ASCII, CW and AMTOR(FEC) turn into exciting text messages as they scroll across your easy-to-read LCD display.

You'll read interesting commercial, military, diplomatic, weather, aeronautical, maritime and amateur traffic ... traffic your friends can't read -- unless they have a decoder.

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.

Super Active Antenna

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

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

Receives strong, clear signals from all over the world. 20dB attenuator, gain control, ON LED. Switch two receivers and aux. or active antenna. 6x3x5 in. remote has 34 inch whip, 50 ft. coax. 3x2x4 in. 12 VDC or 110 VAC with MFJ-1312, \$12.95.

\$129⁹⁵ MFJ-1024 MFJ-1312, \$12.95.

Indoor Active Antenna

MFJ-1020B **\$79⁹⁵**

Rival outside long wires with this *tuned* indoor active antenna. "World Radio TV Handbook" says MFJ-1020 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 preselector with external antenna. Covers 0.3-30 MHz. Has 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, \$12.95.

Compact Active Antenna

MFJ-1022 **\$39⁹⁵**

Plug this new compact MFJ all band active antenna into your general coverage receiver and you'll hear strong clear signals from all over the world from 300 KHz to 200 MHz -- including low, medium, shortwave and VHF bands.

Also improves scanner radio reception on VHF high and low bands.

Detachable 20 in. telescoping antenna. 9 volt battery or 110 VAC with MFJ-1312B, \$12.95. 3 1/4 x 1 1/4 x 4 in.

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 -- from all over the world -- Australia, Russia, Hong Kong, Japan, Egypt, Norway, Israel, Africa.

Printer Monitors 24 Hours a Day

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

Printer cable, MFJ-5412, \$9.95.

MFJ MessageSaver™

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

High Performance Modem

MFJ's high performance phaselock loop modem consistently gives you solid copy -- even with weak signals buried in noise. New threshold control minimizes noise interference -- greatly

Eliminate power line noise!



MFJ-1026 **\$169⁹⁵**

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. Pushbuttons let you select 2 antennas and 2 receivers. Cover 1.6-30 MHz. 9x2x6 inches. Use 9-18 VDC or 110 VAC with MFJ-1312, \$12.95.

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 **\$69⁹⁵**

High-gain, high-Q receiver preselector covers 1.8-54 MHz. Boost weak signals 10 times with low noise dual gate MOSFET. Reject out-of-band signals and images with high-Q tuned circuits. Pushbuttons let you select 2 antennas and 2 receivers. Dual coax and phono connectors. Use 9-18VDC or 110 VAC with MFJ-1312, \$12.95.

Receive CW, RTTY, ASCII, Weather Maps, News Photos



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.

Animate weather maps. Display 10 global pictures simultaneously. Zoom any part of picture or map. Frequency manager lists over 900 FAX stations. Automatic picture saver. Includes interface, easy-to-use menu driven software, cables, power supply, comprehensive manual and Jump-Start™ guide. Requires 286 or better computer with VGA monitor.

High-Q Passive Preselector

MFJ-956 **\$39⁹⁵**

The MFJ-956 is a high-Q passive LC preselector that lets you boost your favorite stations while rejecting images, intermod and other phantom signals. Covers 1.5-30 MHz. Has preselector bypass and receiver grounded pos. 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 Book

How to MFJ-38 **\$16⁹⁵** 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.

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 sloped 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, \$12.95. 5 1/4 x 2 1/2 x 5 1/4 inches.

No Matter What Warranty

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

Try it for 30 Days

Order an MFJ-462B MultiReader™ from MFJ and try it in your own setup -- compare it to any other product on the market regardless of price.

Then if you're not completely satisfied, simply return it within 30 days for a prompt and courteous refund (less shipping).

Order today and try it -- you'll be glad you did.

MFJ 12/24 Hour LCD Clocks

MFJ-107B **\$9⁹⁵**
MFJ-108B **\$19⁹⁵**
MFJ-105C **\$19⁹⁵**

MFJ-108B, dual clock displays 24 UTC and 12 hour local time simultaneously. MFJ-107B, single clock shows you 24 hour UTC time. 3 star rated by Passport to World Band Radio!

MFJ-105C, accurate 24 hour UTC quartz wall clock with large 10 inch face.

MFJ Antenna Switches

MFJ-1704 **\$59⁹⁵** MFJ-1702C **\$21⁹⁵**

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 device. Good to 500 MHz. 60 dB isolation at 30 MHz.

World Band Radio Kit

MFJ-8100K **\$59⁹⁵ kit**
MFJ-8100W **\$79⁹⁵ wired**

Build this regenerative shortwave receiver kit and listen to shortwave signals from all over the world with just a 10 foot wire antenna.

Has RF stage, vernier reduction drive, smooth regeneration, five bands.

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Pop'Comm's World Band Tuning Tips

January 1999

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	6010	Radio Inconfidencia, Brazil	PP	0230	5990	REE, Spain	SS
0000	7415	WBCQ, Maine		0230	9605	Vatican Radio	FF
0000	9580	Radio Yugoslavia		0230	9765	RDP, Portugal	PP
0000	11815	Radio Gaucha, Brazil	PP	0230	9945	Voice of Russia	SS
0030	4785	Ecos del Combeima, Colombia	SS	0230	9965	Voice of Armenia	SS
0030	4960	Radio Cima, Dominican Republic	SS	0300	3300	Radio Cultural, Guatemala	SS
0030	5950	Radio Vilnius, Lithuania, via Germany		0300	4800	XERTA, Mexico	SS
0030	6331	Radio Arcangel, Peru	SS	0300	4820	Radio Botswana	
0030	7345	Radio Prague, Czech Republic	SS/EE	0300	4991	Radio Ancash, Peru	SS
0030	9685	VOIRI, Iran		0300	5840	Croatian Radio	Croatian
0030	15395	Radio Thailand		0300	6030	Radio Marti, USA	SS
0100	4935	Radio Capixaba, Brazil	PP	0300	6040	Radio Monte Carlo, via Canada	AA
0100	4945	Emisora Rural, Brazil	PP	0300	7115	Radio Sweden	Swedish
0100	5770	Radio Miskut, Nicaragua	SS	0300	9550	Channel Africa, South Africa	
0100	5930	Radio Slovakia, Slovak Republic		0300	9575	RAI, Italy	SS
0100	7250	Voice of Vietnam, via Russia		0300	9655	Voice of Turkey	various langs.
0100	9737	Radio Nacional, Paraguay	SS	0300	9745	HCJB, Ecuador	
0100	11685	Radio Budapest, Hungary		0300	11665	Radio Sweden	Swedish
0100	11710	RAE, Argentina		0300	11785	Radio Iraq Int'l	EE
0100	11780	Radio Nacional do Amazonia, Brazil	PP	0330	5905	Voice of Vietnam, via Russia	
0130	4779	Radio Coatan, Guatemala	SS	0330	6940	Radio Fana, Ethiopia	vern.
0130	5045	Radio Cultura do Para, Brazil	PP	0330	9475	Radio Sweden	
0130	6220	Radio Tirana, Albania	variable freq.	0330	15615	Reshet Bet home service, Israel	HH
0130	9420	Voice of Greece	EE/GG	0400	4919	Radio Quito, Ecuador	SS
0200	3325	Radio Maya, Guatemala	SS	0400	4930	Radio Internacional, Honduras	SS
0200	3380	Radio Chortis, Guatemala	SS	0400	6140	Radio Bulgaria	unid
0200	4940	Radio Amazonas, Venezuela	SS	0400	6265	Zambia Nationala Broadcasting Corp	
0200	5305	Radio La Inmaculada, Peru	SS	0400	6900	Turkish Meterological Station	TT
0200	6155	Radio Romania Int'l		0400	9435	Kol Israel	
0200	6458	Armed Forces Radio, USA	USB	0400	9730	China Radio Int'l, via French Guiana	
0200	7450	Voice of Greece	GG/EE	0400	9885	Swiss Radio Int'l	
0200	9570	Radio Romania Int'l		0400	11605	Kol Israel	
0200	9780	YLE — Radio Finland		0500	5030	Adventist World Radio, Costa Rica	
0200	11720	Radio Bulgaria		0500	5077	Caracol, Colombia	SS
0200	12050	Egyptian Radio	AA	0500	7255	Voice of Nigeria	
0230	2460	Radio Alvorada, Brazil	PP	0500	7520	Radio Bulgaria	
0230	4865	Radio Verdes Florestas, Brazil	PP	0500	9790	Radio France Int'l	FF
0230	4955	Radio Nacional, Colombia	SS/EE	0530	4832	Radio Reloj, Costa Rica	SS

UTC	Freq.	Station/Country	Notes	UTC	Freq.	Station/Country	Notes
0530	7155	La Voix du Sahel, Niger	FF	1400	9490	Radio Abkhazia, Abkhazia (Georgia Rep.)	RR
0600	5025	Radio Rebelde, Cuba	SS	1400	9830	Radio Thailand	
0630	6015	Radio Austria Int'l, via Canada		1400	11600	Far East Broadcasting Assn., Seychelles	
0630	9600	Voice of the Mediterranean, via Italy		1400	13580	Radio Prague, Czech Republic	
0700	3205	Radio Ribeirao Preto, Brazil	PP	1400	15650	Kol Israel	
0700	9505	Radio Prague, Czech Republic		1400	17675	Channel Africa, South Africa	
0800	5865	HCJB, Ecuador		1430	11785	Qatar Broadcasting Station	AA
0800	6020	Radio Victoria, Peru	PP	1430	15160	Broadcasting Svc. of Kingdom of Saudi Arabia	AA
0800	7365	KNLS, Alaska		1430	21605	RDP, Portugal	PP
0800	9830	Croatian Radio	EE/Croat	1500	9850	Radio Cairo, Egypt	AA
0800	11880	Radio Australia		1500	9930	KWHR, Hawaii	
0830	6115	La Voz del Llano, Colombia	SS	1500	11895	Voice of Turkey	TT
0900	4890	NBC, Papua New Guinea		1500	17630	Africa Number One, Gabon	FF
0900	6060	Radio Nacional, Argentina	SS	1500	21551	Voz Cristiana, Chile	EE/SS
0900	6150	Radio Record, Brazil	PP	1500	21570	Radio Exterior de Espana, Spain	SS
0900	6185	Radio Educacion, Mexico	SS/EE	1530	12085	Radio Tirana, Albania	
0900	9580	Radio Australia		1530	21605	UAE Radio, Dubai, UAE	AA
0930	3280	La Voz del Napo, Ecuador	SS	1600	11570	Radio Pakistan	
0930	4755	Radio Educadora Rural, Brazil	PP	1600	11620	Radio Jordan	
0930	4875	Radio Roraima, Brazil	PP	1600	11905	Sri Lanka Broadcasting Corp.	unid
0930	9700	Radio New Zealand		1600	12015	Radio France Int'l, via Gabon	
0930	9710	Radio Australia	Pidgin	1600	17760	BSKSA, Saudi Arabia	AA
0930	9809	Radio Kiribati	EE/vern.	1630	13675	UAE Radio, Dubai, UAE	
0930	11635	Far East Broadcasting Corp., Philippines		1630	15340	Radio Denmark, via Norway	DD
1000	3340	Radio Altura, Peru	SS	1700	13705	Radio Rossi, Russia	RR
1000	4775	Radio Tarma, Peru	SS	1700	15505	Radio Kuwait	AA
1000	4830	Radio Tachira, Venezuela	SS	1730	11735	YLE — Radio Finland	Finnish
1000	9865	Trans World Radio, Guam		1730	15475	Africa Number One, Gabon	FF
1000	11805	Radio Globo, Brazil	PP	1730	15735	Radio Sweden	
1030	5020	Solomon Is. Broadcasting Corp.		1800	8000	Radio Omdurman, Sudan	EE/AA
1030	6070	Voz Cristiana, Chile	SS	1800	11990	Radio Kuwait	
1030	6100	Radio New Zealand Int'l		1800	12689.5	Armed Forces Radio, USA	SSB
1030	11715	Radio Korea Int'l		1900	9510	Trans World Radio, via S. Africa	vern.
1100	5055	Faro del Caribe, Costa Rica	SS	1900	15120	Voice of Nigeria	various langs.
1100	6105	XEQM, Mexico	SS	1945	13860	Icelandic National Broadcasting	Icelandic
1100	7260	Radio Thailand	various langs.	2000	9905	Swiss Radio Int'l	
1100	9795	Far East Broadcasting Corp., Philippines	EE/ various	2000	11657	Voice of Russia	
1100	11760	Radio Republik Indonesia	II	2000	15160	Radio Algiers Int'l, Algeria	
1130	3260	Radio Madang, Papua New Guinea	Pidgin	2015	13610	Radio Damascus, Syria	
1130	9845	Voice of Russia	Mongolian	2030	9770	UAE Radio, Dubai, UAE	
1130	9925	Radio Vlaanderen Int'l, Belgium		2030	11960	Radio Minsk, Belarus	
1130	15125	Broadcasting Corp. of China, Taiwan	CC	2030	13720	Radio Havana Cuba	
1130	15225	KSAD-AWR, Guam	various langs.	2030	15415	Radio Jamahiriya, Libya	AA
1200	9154	Radio Azerbaijan	Azeri	2100	9855	Radio Kuwait	AA
1200	9760	Voice of America via Philippines		2100	11700	Radio Budapest, Hungary	
1200	12080	Radio Mongolia		2100	11915	Merlin Network One, England	
1200	15485	China Radio Int'l		2130	15575	Radio Korea Int'l	
1200	17775	Radio Tashkent, Uzbekistan		2130	17765	Voice of Greece	
1230	9640	Radio Canada Int'l		2200	7225	RTT, Tunisia	AA
1230	15545	R. Vlanderen Int'l, Belgium		2200	11885	UAE Radio, Abu Dhabi	AA
1300	11705	Radio Japan/NHK	JJ	2200	15345	RTVM, Morocco	AA
1300	15200	Uzbek Radio, Uzbekistan	Uzbek	2215	7105	Cyprus Broadcasting Corporation	weekends
1300	15445	Radio Nacional, Brazil	PP	2230	4870	ORTB, Benin	FF
1300	17545	Reshet Bet, Israel	HH	2300	7125	Radio Guinee, Guinea	FF
1300	17745	Radio Romania Int'l		2300	9485	Radio Bulgaria	
1330	13710	All India Radio		2300	9690	Radio Nacional, Argentina	EE
1330	17770	Radio Romania Int'l		2300	9725	Adventist World Radio, Costa Rica	
1400	5995	Radio Australia		2300	11334	Radio Pyongyang, North Korea	
1400	7405	China Radio Int'l		2300	13670	Radio Canada Int'l	
				2330	7210	Qatar Broadcasting Station	AA

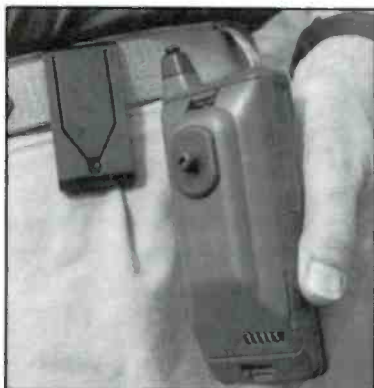
Product Parade

BY HAROLD ORT
AND R.L. SLATTERY

REVIEW OF NEW, INTERESTING AND USEFUL PRODUCTS

Radios On Belt

Quick Draw Clip Systems new Magic Flexible Button holds your tools, cordless phone, cell phone, CD player, or radio — almost anything with a flat or rounded surface. It is made of poly-



Shown attached to a cellular phone, the new inexpensive Magic Flexible Button can also hold your scanner, HT, or tools to your belt.

urethane and comes with 3M adhesive that holds 70 lbs per square inch, an alcohol pad to clean the surface it's attached to, and fits all the clips produced by Quick Draw Clip Systems, Inc. (beltless clip, camera clip, oval clips, etc.)

Prices start at \$7.95 plus shipping and handling. Each clip comes with the New Magic Flexible Button. Additional buttons may be purchased separately. Orders are taken at 888-254-7797. For more information contact Quick Draw Clip Systems, Inc. at 4869 McGrath Street #130, Ventura, CA 93003. Check out their Website at <http://www.clipsystems.com>.

Shortwave Receivers Past And Present

For those who appreciate the fine art, craft, and technology of communications receivers, Fred Osterman, N8EKU has a

real treat. It's the Third Edition of his book *Shortwave Receivers Past & Present (1942-1997)*. That means radios from Hallicrafters, RME, National, Hammarlund, and similar "boat anchors" that gave off a warm glow, to modern digital whizbangs from ICOM, Drake, AOR, Watkins-Johnson, SONY, Panasonic, and the rest of today's champions.

Fred didn't forget the famous inexpensive brands either, like Lafayette, Allied, Heath, Knight, and Globe. And he's included overseas makers like Grundig, Eddystone, Telefunken, Siemens, Redifon and many others.

In all, Fred covers more than 770 communications receivers including desktop, general coverage, professional, ham band, shortwave, and specialty receivers from 100 worldwide manufacturers. That covers just about every radio and manufacturer we ever heard of, and many previously unknown to us. In this chunky 473-page book, you'll find a

DEDICATED TO THE SCANNING AND SHORTWAVE ENTHUSIAST. WE'RE MORE THAN JUST SOFTWARE!

CAT-5000
SPECTRUM ANALYSIS ON YOUR PC

Only \$99.95 + S & H

- With the addition of AOR's SDU-5000 Spectrum Analyzer and this NEW Windows Software any radio that has a 10.7MHz IF output will give you full computer controllable spectrum analysis.
- Plus, with the listed radios below, you can have a complete computerized control of receive frequency, direct frequency readout, and a spectrum bandwidth (variable from 500KHz to 10 MHz).
- Just use your mouse to "arm chair" the controls. Never touch the radio once the software is running.

Supports

- AR3000A, 5000
- R7000, R7100 ICOM
- Most ICOMs with 10.7MHz IF

Features indicates for above listed radios only.

- Variable bandwidth: up to 10.7 MHz.
- Instant Readout of Frequency any place on the PC's Display.
- Instant change of center frequency with a simple mouse click.
- Save Spectrum data to disk.
- Playback of Recorded Spectrum data from disk.
- Signal Averaging, PLUS our exclusive "VARI-COLOR" Analysis.
- Variable Peak Readout.
- THREE different graphical analysis modes.
- Download our demo for test drive.

Minimum Requirements • IBM PC 8 meg ram • Windows 3.1 or later • 8 meg Hard Drive

COPYCAT-PRO

The ONLY Commercially Available Computer Control Program for the Universal M-7000 & M-8000. Also, AEA's PK-232 and the MFJ-1278

COPY-CAT PRO FEATURES

- 32K incoming text buffer.
- Runs on any 640K PC-Compatible.
- Control BOTH your TNC and radio simultaneously!
- Multiple pop-up windows for HELP, frequency files, and text editor.
- Supports ALL SCANCAT files.
- Download our demo for test drive.

Discover our revolutionary COMPUTER CONTROL PROGRAM for the M-7000, M-8000, PK-232, and MFJ-1278. Let COPYCAT-PRO free you FOREVER from remembering all those buttons and keys. COPYCAT-PRO does it all. Simple "PULL-DOWN" menu control all functions. Fully editable text buffer, 20 PROGRAMMABLE "menus" and much more.

COPYCAT-PRO \$79.95, UPGRADES \$24.95 S/H \$5.00 (\$7.50 Foreign)
Specially wired cable for the M-7000/8000 \$24.95

CAT-WHISKER

TIRED OF YOUR HANDHELD SCANNER FALLING OVER?

Try our unique, swivel base, telescopic scanner antenna, CAT-WHISKER lets you lay your handheld scanner on its back and still keep the antenna vertical!

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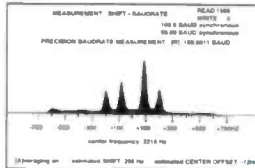
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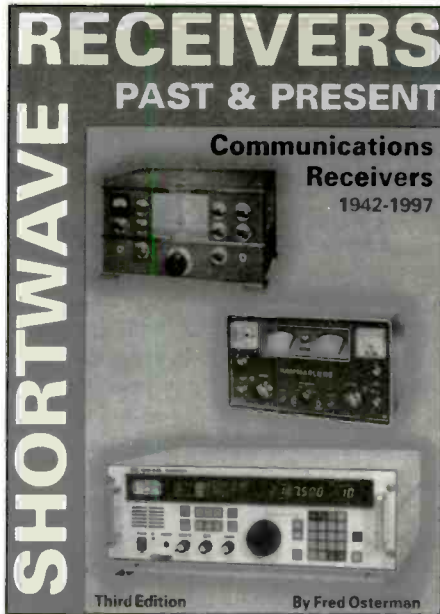
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photo of each, a description of its features, tech specs, accessories, model variants, availability, date sold, size/weight, reviews, price when new, used value, value rating, and current status. Information about the manufacturers themselves is also provided.

In the rear of the book, there's a great cross-reference that allows you to look up a receiver according to any of its variant model names including military designations. So if you looked up a AN/URR-74 (V) 2, you'd see it's the military's modified version of the Watkins-Johnson WJ-8718A. Or the R-2368/URR is a U.S. Navy version of the Harris RF-590. And did you know that the NC-121W is the old National NC-121, but in a walnut case?

What great historic stuff can be discovered here! Like the National FRR-24. It weighed 1,200 pounds! Too big? Then what about the 967 lb. RCA SSB-R3 receiver? There's the legendary Hallicrafter's SX-42, dream receiver of 1947. How about the ugly Ecophone EC-1? It was the World War II ancestor of the popular Hallicrafters S-38 beginner's receiver. A WWII GI named Hogarth loved the EC-1.

I found specs on the National WRR-2A, Navy version of the FRR-59A. This



Fred Osterman's new Shortwave Receivers Past & Present is a must for SW enthusiasts.

is a fantastic 250-pound general coverage behemoth tightly packed with 64 tubes plus semiconductors. It had cost Uncle Sam \$10,000, when new. Twenty years ago in a fit of wild abandon, I bought a surplus WRR-2A from a guy in Hawaii

for the bargain price of \$750 plus shipping. Though represented as "working," it didn't. It was totally kaput in every department. The service manual was a good three inches thick! The radio was so complex, I couldn't find anyone even willing to try to fix it. Ten years ago, I dumped it "for parts only" at a ham flea market. I accepted the best offer which was \$80. My XYL is still laughing, to say nothing of the clown who had unloaded it on me. I was really sorry Fred's book reminded me of this incident. Don't get me started!

This book is so comprehensive it even lists and shows photos of 17 phantom receivers. These were announced but never actually existed (except for a few prototypes or non-working advertising mock-ups), or went on sale. They were from Collins, Hallicrafters, Hammarlund, and others.

Shortwave Receivers Past & Present is the ultimate information resource for those who love MHz inhalers. It's \$24.95 plus \$2 shipping to U.S. addresses from Universal Radio Research, 6830 Americana Pkwy, Reynoldsburg, OH 43068. Phone 800-431-3939 or FAX 614-866-2339 or on the Web they're located at <http://www.universal-radio.com>.

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27-MHz COMMUNICATIONS ACTIVITIES

Happy New Year!

Of all of the time-honored traditions associated with the start of the New Year perhaps the most honorable is the making of resolutions. You know, those promises we make to ourselves and each other to do things differently, hopefully better, in the year to come. This year I am only making two, and I'd like to share them with you in the hope that you will hold me to them.

Number one on my list is to double-check all dates I mention in this column. Case in point, last November's issue — the on-air mixer I asked you to attend on "Saturday November 24." Well, there is no Saturday, November 24. The correct date is Saturday, November 28, the last Saturday in the month. My apologies.

Number two is to devote more time and energy promoting on-air CB activity, particularly on-air mixers. Judging by your response to the ill-fated November attempt, you think that promoting such events is an excellent way to increase activity, meet new people, renew old acquaintances, and stimulate on-air conversation.

One More Time

Obviously, by the time you get to read this, it will be too late to correct the misinformation about the date of the November mixer. However, since we are looking ahead to 1999, let us schedule at least one more. So, if you would, please mark your calendars to meet at 9 p.m. on the last Saturday in January, the 30th.

Use the same plan and procedure as outlined in the November 1998 issue (if you don't have it drop me a note and I'll send you a copy), with one noted exception. That exception is that AM operators should use channel 25 instead of 35 as the initial call channel. SSB participants should still use 36 LSB where possible.

Why the change for AM operators? Andrew U. Hassman (BD-738) of the Westside Big Dummy SSB Club in Marina, California, wrote and reminded me that some areas of the country still use channels 31 through 40 exclusively for SSB operation. Other areas only set aside

channels 36 through 40. Thank you Andrew for bringing that to my attention.

Moving the AM call channel to 25 should help eliminate any possible AM/SSB conflicts. It should also give AM operators a few channels above and below to use as alternates or talk channels.

Whatever restrictions exist in your area, whether for home, SSB, AM, or other special radio uses, let local customs rule. While the main goal of the mixer is to build activity, we should also strive to promote good relations between various on-air factions.

And yes I've checked, checked, and checked again, January 30, 1999, really exists and really is a Saturday. Not only that, I've checked to see that at least some of my radios have channels 25 AM and 36 LSB (so they also really do exist) and for the past few Saturday nights, I've been watching the clock, and 9 p.m. has happened every time!

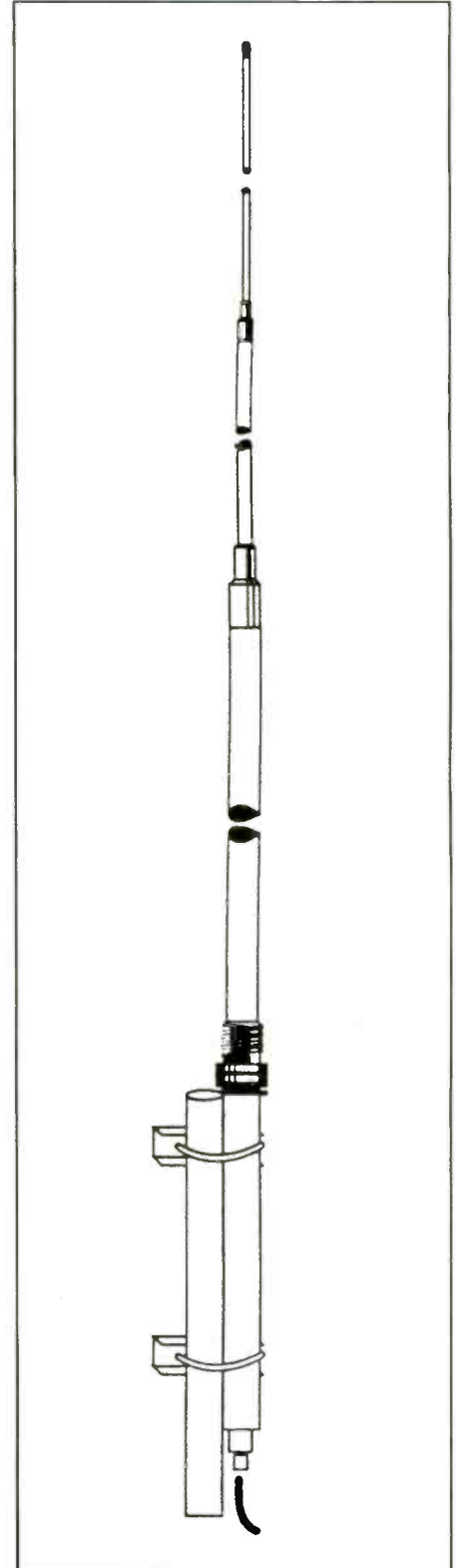
Spreading The Word

Obviously, the times, days, channels, and procedures for future mixers are subject to change. Mistakes we make in our first few attempts will help to refine our approach. Participants will have to be kept informed of these changes. So, one of the major obstacles I will be working on is how to get that information out.

While it would be nice to think that everyone who has a CB faithfully reads this column, we all know there are one or two who don't, and we don't want to miss anybody. So, to reach as many as quickly as possible, we will have to include other methods of communication. Two that come immediately to mind are the Internet and CB.

Do you know any CB-related Web pages that could carry information about future mixers? Is there a CB net in your area that would announce or host them?

This Solarcon A-99 antenna could be a CB base antenna. It's also a very economical vertical for 10 meters! We can't help but wonder how cities like Kingston, New York, will tell the difference once the inspectors hit the road on a mission.



If so, is there a member of that net who can receive E-mail and pass the information to the net? Would you like to be put on an E-mail list to receive future announcements? Drop me a note and let me know.

Monica Saves CB

Well, sort of. As I write this column (October, 1998). Congress is adjourning for the year. As you know, there are several measures in the House and Senate that, if passed, would empower local authorities to enforce certain FCC regulations as they pertain to CB Radio. For the moment, unless these bills find themselves attached to one of the last minute appropriation bills, none will become law in 1998 as this is written. But 1999 is another story!

Why? Well, the folks on the "Hill" are too busy with other things and just couldn't find the time. Thanks to Monica, we might sneak through another year without the fear of Barney Fife beating down our door and carrying off our radios. Our reprieve is only temporary. There is every reason to believe that one of these bills (H.R. 2612, S. 608, and others) will, in one form or another, become law in 1999. We do, however, still have time to influence its final form. So, do keep in touch with your representatives in Washington.

I have been working with Cameron Wilson, legislative aide to Michigan's Congressman Vernon J. Ehlers, author of H.R. 2612. He attempted to get a line added which would require that a complaint of interference be filed before local authorities could go after people. Unfortunately, that line will never make it into the bill. It seems the concept does not make sense to the legal department. They say that it was already "implied". Something to do with "Probable Cause." That seems a little vague to me. I guess we will just have to wait and see.

Hold Onto Your Antenna

While the world waits for Congress to act, the problems that have prompted the proposed laws persist. Namely, interference to televisions and other electronic entertainment devices — stereos and radios — caused by CB radios.

Some local communities are tackling the problem using whatever means they can. Case in point, the city of Kingston, New York. David A. Barger wrote to inform us of a new ordinance (#189) which, as of October, 1998, regulates CB



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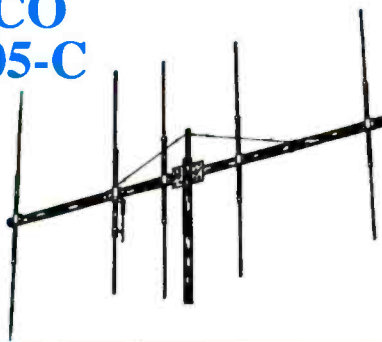
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CIRCLE 72 ON READER SERVICE CARD

"Once again, our brothers and sisters in the amateur community seem to have dumped the blame for some problem, real or imagined, squarely on the backs of CBers."

radio antennas. Among other things, this new ordinance limits the number of CB antennas per residence to one. In addition, it requires that a building permit be obtained to install any CB antenna which is free-standing or that extends more than 12 feet above the structure to which it is attached. Other provisions of the ordinance will require copies of the manufacturer's specifications for the antenna or antenna support structure and details of footings, guys and braces, copies of insurance policies, site plans, and more.

I spoke with Donna Hintz of the city's Corporation Council and asked her if the "Interference Factor" had played a role in the formulation of this new law. She confirmed that it had. She also pointed out that structural safety and aesthetics were also legitimate concerns.

I asked Ms. Hintz if the erection of a CB antenna would preclude city residents from having other antennas for scanners

or amateur radio? No, this only applies to CB. She told me that the amateurs were adequately represented by the ARRL in the formulation of the law. In fact, her office had consulted with the ARRL's legal advisors.

Was there any input from the CB community? Ms. Hintz said that there were several CBers at some of the meetings, but did not think that they were members of any organized group or that they could be readily identified or contacted. Once again, our brothers and sisters in the amateur community seem to have dumped the blame for some problem, real or imagined, squarely on the backs of CBers. Further, in the process, they have managed to get themselves exempted from the consequences. Or have they?

In conversations with officials in the city of Kingston Building Department, I discovered that they might not be able to tell the difference between CB and other

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CIRCLE 75 ON READER SERVICE CARD

antennas. These are the people who will be charged with the enforcement of the law. When asked, one official said he did not know that a radio operator needed more than one antenna to work different bands. To them, one antenna looks pretty much like another. Come to think of it, they do. I know a number of amateurs who use CB antennas to work the 10-meter band.

I don't blame the amateurs for doing whatever they can to protect themselves. I wish we could do the same. I do think that they are a little short-sighted. While CBers and amateurs claim to see vast differences between their respective pieces of the radio hobby, outsiders don't. To them, as with the "enforcers" in Kingston, we all look pretty much alike. The truth is, when you get right down to it, we are! Because we *are* so much alike, is it unreasonable to conclude that increased restrictions on CB will eventually find their way to the amateur community?

Need To Organize

Once again, as I approach the end of this column, I am forced to face the fact that the biggest single difference between the amateur and citizen's radio commu-

unities is that one is organized and one is not. Recent events in Kingston painfully drive that point home. CB needs to organize. If we don't, piece by piece, we are going to lose it.

We don't need to organize "everybody." We don't even need to organize "most of us." We *do* need to organize a few. How about you, can you help? If you don't, who will?

Computer Eats Homework

Finally, I must apologize to a half dozen or so readers who have sent me E-mail and have not received a reply. You see, my computer ate my homework. That is to say, my E-mail program deleted your notes. I read them, that is how I know you wrote. Unfortunately, after I read them, the E-mail program deleted them. I have found and fixed the problem, but the lost mail is really lost. So, if you have written and have not received a reply, please forgive me and try again.

Well, that's it for now. Thanks for writing me here at the magazine or via the Internet where my address is <edbarnat@global2000.net>. And, as always, if you can (especially on January 30th) — catch me on the radio! 73 — Ed

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We've got lots of great logs again this month, so here we go (don't forget to send in yours)!

Radio Metallica, 6955 at 2252, with talks on Monica, Paula, Clinton, plus rock numbers. Also heard at 0246 and 0031 with ID and sign-off. (Tim Taylor, PA) Same heard from 0210-0256 with Dr. Tornado and Sr. El Niño. (William Hassig, IL) 1431 with standard and hard rock. Blue Ridge address announced. (Dave Jeffery, NY) 2248-2332, also on various dates at 0010, 2240, 1349, 0311 (Lee Silvi, OH) **6958** at 0027 with Ramstein's "Du Hast" until 0033 close. (Sean Ingram, VA)

Mystery Radio, 6955 USB, tentative, 0315 with space music, strange talks. Again at 0301. (Hassig, IL). Also at 0410, then off, back at 0500. Mention of Belfast, NY address. Sign-off at 0541. Also tentative at 0353 with swing and "jazzy type" music. Off at 0405. (Taylor, PA) 0303. Also presumed this at 0142-0211 close. And at 0308 and 2032. (Silvi, OH)

WBIG (The Big One) 6955 at 0100-0120 with IDs and music. (Silvi, OH) 0125; gave the Belfast address and an E-mail address. (David W. Baltes, NY)

WREC, 6955 USB, tentative, at 0204 with Belfast address, Bram Stoker was on hand. Off at 0218. (Taylor, PA)

Radio Azteca, 6955 USB, 0004-0016 close with program 31 repeat. Heard another time at 1225 to 1247 close. Also at 0201 and 0205. (Silvi, OH)

RFM, 6955 heard at 0245 repeating a Christmas broadcast, closed with "Secret Agent" theme at 1502. Blue Ridge Summit address. (Jeffery, NY) 0053-0237 with several Queen songs. (Silvi, OH)

Voice of the Twilight Alehouse, on 6955 at 0023-0100 off. Providence mail drop. Said they took the name from the song of that name. (Silvi, OH)

Voice of the Twilight Anthouse, 6954.8, (0022-0100) close with rock and talk about Clinton leaving office. Said would have mailbag address in future shows. Providence address. (George



Zeller, OH) (*I suspect the above two are the same station — Ed.*)

Betty Boop Radio, on 6955 USB heard at 2329 with Betty Boop music, IDs. Providence address. Off at 2343. (Jeffery, NY)

WMPR—1030, 6955 at 2238 with pops. (Vincent Everett, NY) WMPR — MicroPower Radio, 0145 with mostly techno-pop. Off at 0153. (Taylor, PA) Tentative at 2227. Also at 1652, again with no mail drop announced. (Silvi, OH)

Radio Aladonia, tentative, 6955 USB, a relay from Germany at 0206 with several IDs and off suddenly at 0226, then someone — possibly Mystery Radio — doing a modulation test. (Taylor, PA)

Radio Xanax, on 6955 USB, 0113 with humorous comments about drug use. Stoneham, MA maildrop. (Everett, NY) 0022. (Silvi, OH)

Voice of the Pig's Ear, on 6955 USB, 2352-0029. No mail drop announced. Also at 2331, 0138, and 0220 with program in response to Tangerine Radio. Also at 2355. (Silvi, OH)

Jerry Rigged Radio, 6950 USB at 0300 with Latin and Indian music. Also heavy metal. (Hassig, IL)

Polka, on 6955 USB at 0204 with polkas. (Hassig, IL) 0222. (Silvi, OH)

Radio Free Euphoria, heard on 6955 USB at 0124-0149 close with Captain Ganja, rock and drug sketches, marijuana songs, advocacy for pot. Belfast address. (Zeller, OH) On at 0121 with song "Ride, Captain, Ride." (Silvi, OH)

Voice of Anarchy, monitored on 6955 at 0058 with big band and swing. (Silvi,

OH) 0104 with Bram Stoker and Rusty O. Atega. Also various skits and spoofs, including new segment "The small Furry Critter Report." Belfast mail drop. (Taylor, PA)

Deliverance Radio, on 6955 USB at 0133 with usual squealing and repeated theme song. (Silvi, OH)

Radio Nonsense, heard on 6955 USB, 0114 sign-on to 0137 off. Also 0117-0243 and 0201-0243. (Silvi, OH)

Radio Freedom, monitored on 6955 USB at 2036 with various songs including a couple by Jim Morrison and "You are listening to a test of Radio Freedom — enjoy." No address announced. (Taylor, PA) 1945 with test. Also at 2049 with rock. (Silvi, OH)

Voice of P929590 (tentative ID), 6955 USB monitored at 2308. Lots of alternative rock. The "P9329590" ID at 0010 but not sure if this was the same station as at tune-in. Someone mentioned they were in downtown Toledo (OH). Off at 0029. (Taylor, PA)

Voice of the Raving Lunatic, on 6955 USB 0351 with various tunes, uncopied phone-in number. Said there was no address. Off at 0402. (Taylor, PA) 0316. (Silvi, OH)

Tangerine Radio, monitored on 6955 USB, around 0052. (Taylor, PA) 0149. (Silvi, OH)

WELR (We Like Radio) on 6955 USB at 0143. (Silvi, OH)

WRYT, on 6955 USB at 0251; mention Belfast drop. Also heard at 2006 and 0309. (Silvi, OH)

(Continued on page 77)

The Old CB Shack

BY DON PATRICK

GIVING LIFE TO YESTERDAY'S RELICS

Working On An Old Polycom 23

A Merry Christmas and Happy New Year to you, one and all. Thanks for your continued support of *your* column!

In the E-mail and letters that we receive, the one question that we keep getting is "where can I find someone to work on these old units?" In the past, we have provided suggestions for sources of crystals, tubes, and schematics. However, I don't have a good answer for this question.

We also get a lot of requests from readers to work on different units. I wish that we could take care of them all; however, we can only do a very limited number because of our regular work and the fact that I have to do much or most of the work myself. While my technicians are good, they are current generation and not really "up-to-snuff" on tubes and wires and such. They grew up on pc boards and transistors. Perhaps some of you have found a shop or two that we could pass on to other readers. If so, send us their name, address, and phone number, what experience you have had with them, and how long they have been in business. If it sounds good, we could pass it on, but with no guarantees. The readers can check them out for themselves.

The Polycom 23 was one of the first versions of the very popular and high-performance Polycom radios. You can tell this from the outside because it has a two-position slide switch on either side of the MOD/PA control, just to the right of the meter, and the two Poly Call controls are adjusted through the back panel of the radio. The later model has a four-position rotary switch just to the right of the meter and the Poly Call sensitivity control beside it. The Poly 23 (Photo 1) is the same as the Senior 23 radio, minus the Poly Call circuit and controls. In the November issue of *Pop'Comm*, we discussed what this circuit did for you and that you must have two radios with Poly Call for it to be of any use to you. From the E-mail and letters I receive, it's amazing how many of you had, or have gone

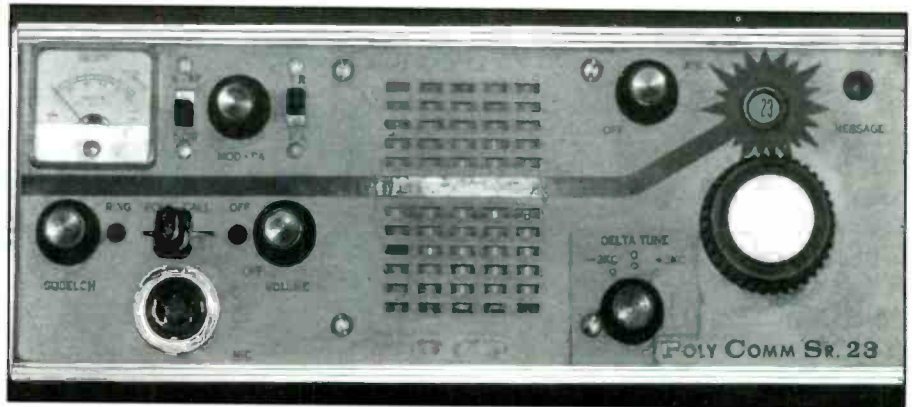


Photo 1. The old Polycom 23.

out and found, one of these radios. Get them working and you'll be very pleased.

Checking It Out

On initial examination of this unit, we observed the following facts. It has extensive corrosion on the chassis in spite of the cad plating, but none of it seems to be

in any area that will affect its performance or reliability, only its looks. It looks as though something was spilled on the top of the radio and ran out the back. As you can see, the bottom was not affected and, because of the Teflon insulation, the wiring is in good shape (Photo 2).

The next thing that I could see was that the shield over the power supply is miss-

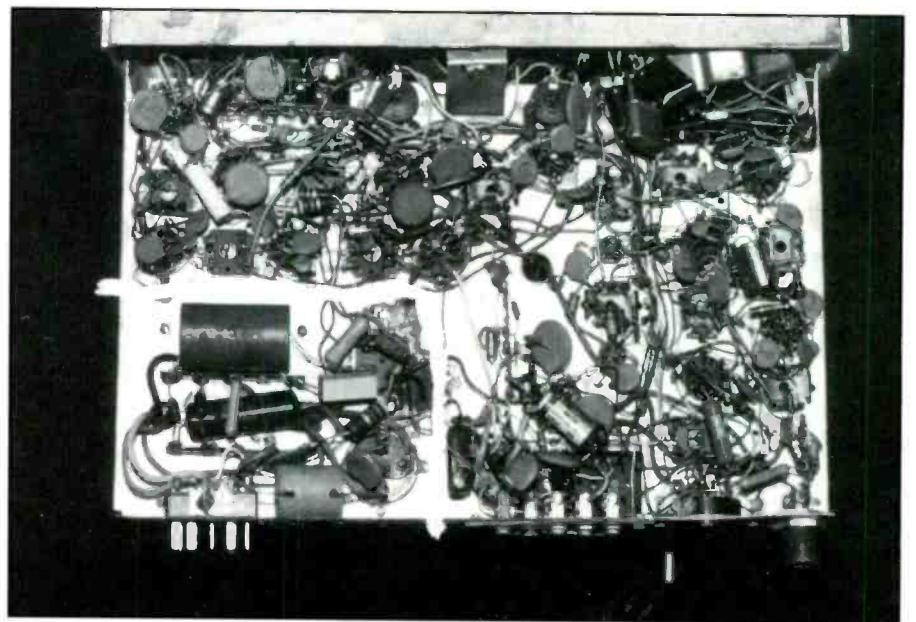


Photo 2. The bottom of the CB wasn't affected by the spillage, and the wiring is in good shape.

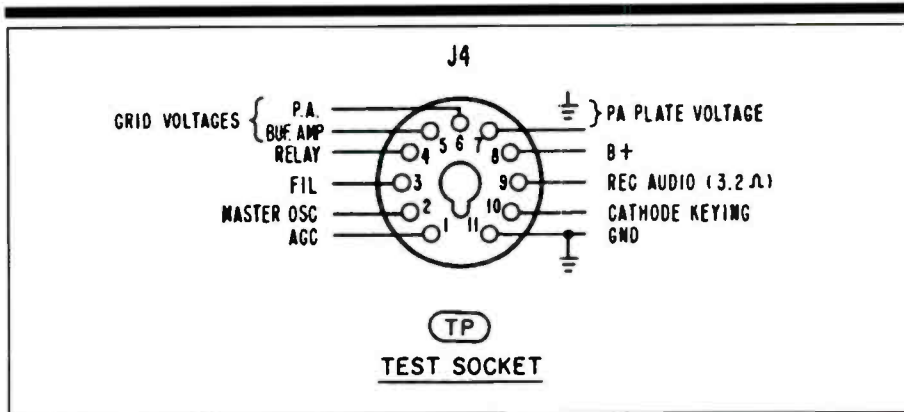


Figure 1. Pin-out for the test socket plug.

ing. It covered the area in the lower left section of the radio that I outlined in white all the way to the back of the chassis. While this cover did keep your fingers out of the incoming 117-volt power and the high voltage in the power supply, its main purpose was to reduce vibrator hash. Other than the 117-volt hazard, there are a lot of places for you to get into the high voltage all over the radio. I recommend you cover the back of the power plug with tape. It's not a big deal unless you are going to run the unit on 12 volts DC.

If you look carefully at **Photo 3**, where the top arrows point, you can see a crystal socket with nothing in it. This is where the receiver's second conversion crystal should be plugged in. The radio will not work without it. I happen to have one, so this will not delay us (they can be obtained

from one of the crystal manufacturers). Also in this picture at the lower arrow, you can see where this radio was modified with a control mounted to the top of the modulation transformer. A wire from it ran through the socket where the tone frequency element for the Poly Call should plug in. I will have to trace this and see what they have done and why.

In **Photo 4**, the left bottom arrow points to the test socket. The pin-out for this plug is shown in **Figure 1** and provides about all of the test points that you need to tune this radio. You can use any decent 20,000-ohm/volt analog meter for this. Don't try to use a digital meter since it will jump around too much for tuning purposes.

The middle arrow in **Photo 4** points to audio output and relay circuit terminals. Use **Figure 2** for its pin-out. The top

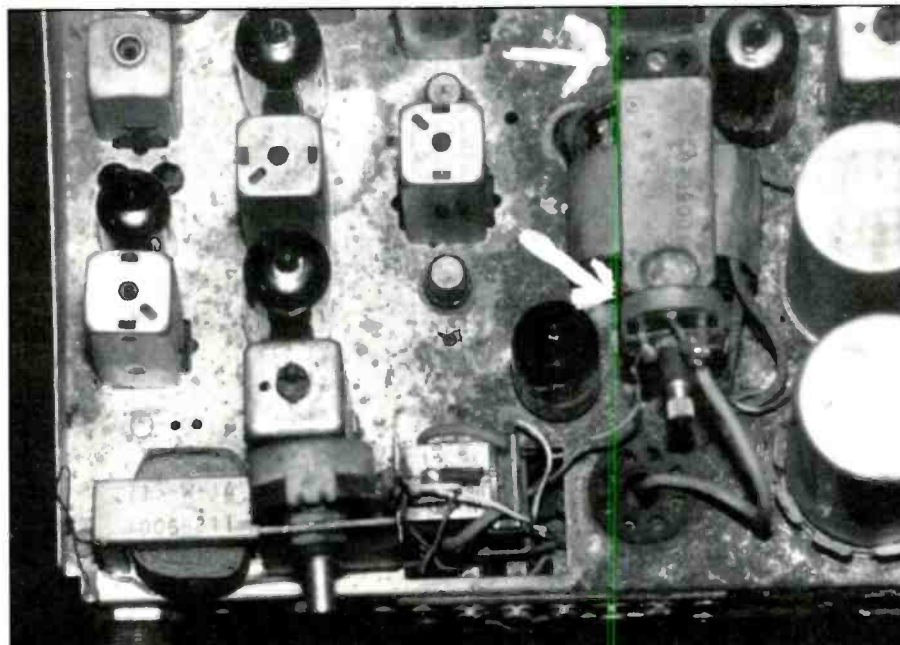
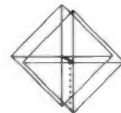


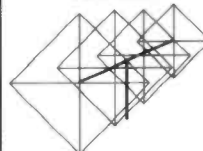
Photo 3. Notice the empty crystal sockets where the receiver's second conversion crystal should be plugged in.

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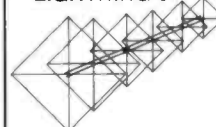
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arrow on the picture points to the vibrator, which is used if run mobile (so unless you intend to run mobile, remove it.) I have seen a few cases where a defective vibrator has caused problems during 117-volt operation.

Last, but not least, we have provided you with the wiring for both the 117 and the 12-volt power cords in **Figure 4**. Be careful to use the correct one. If you need the plug for the radio end, most any radio and TV supply house will have it. **Do not** plug this radio in without fuse protection. The fused plug originally used was made by Elmenco. If you cannot find one, get two in-line fuse holders and use them with 2-amp fuses. Be sure that the fuse holders are rated for 117-volt use.

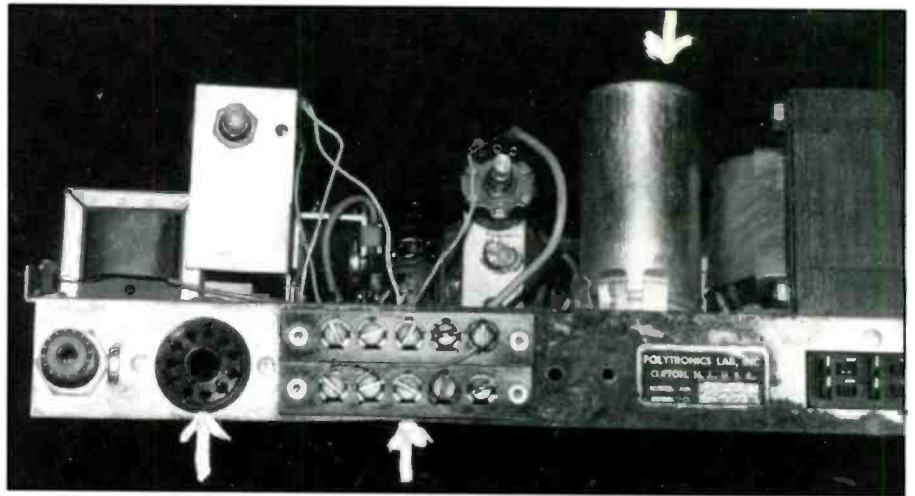


Photo 4. The bottom left arrow points to the test socket, the middle arrow points out the audio output and relay circuit terminals, and the top arrow shows the vibrator (used if run mobile.)

Ready To Plug It In

Now we are about ready to apply power to the radio. I have already checked all the tubes and replaced four defective ones. Also, I like to apply power for the first time using *undersized* fuses. The radio was made to run on 2-amp fuses, providing for transmit and a little extra. We are going to only be using receive at first, so

if there is a major problem, a 1-amp fuse that we will use to start with will blow quicker. This reduces the amount of smoke and damage.

Please keep in mind that there are dangerous voltages present all over the bottom of this radio. **THEY CAN BE LETHAL!** So, if you don't know what you are doing, stop and take it to someone who does!

We have put in temporary 1-amp fuses, removed the vibrator, and made sure that the Off/On switch is in the Off position. Plug the power cord into the wall outlet and turn on the radio. You will note three NE86A neon tubes on the underside of the radio. These are used as a "poor man's" voltage regulator and/or peak limiter. Some light up all of the time and others only while limiting. They glow a red-

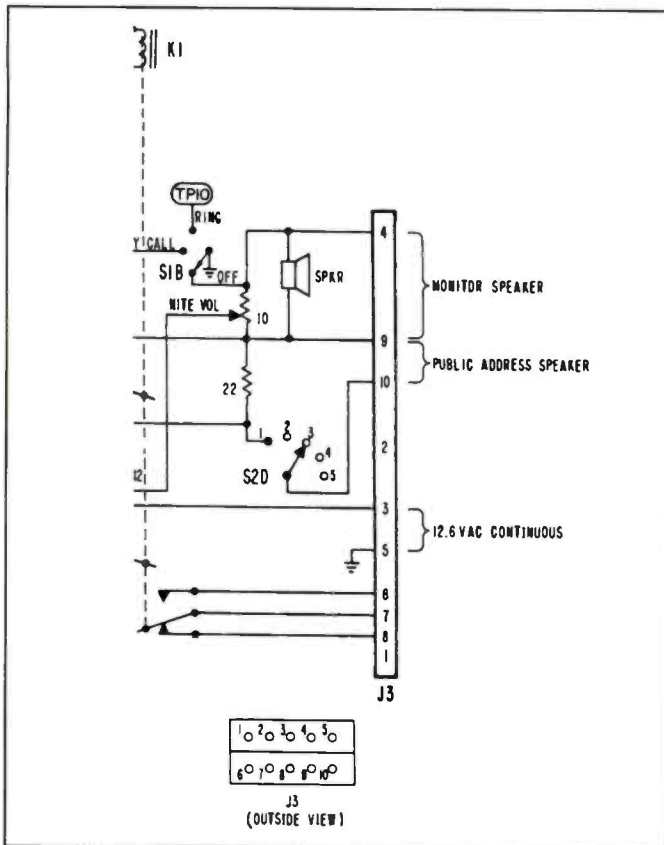


Figure 2. Pin-out for audio output and relay circuit terminals.

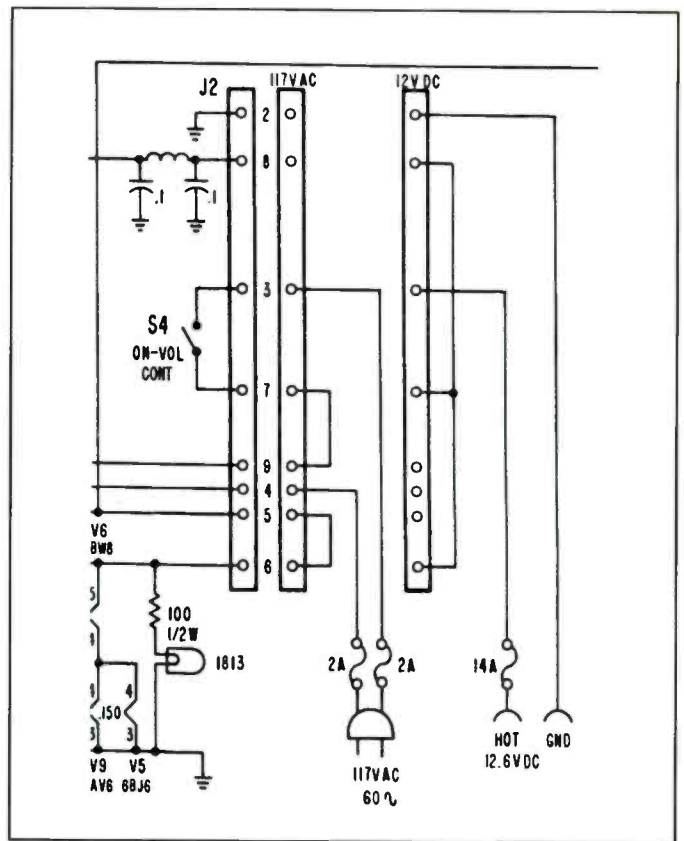


Figure 3. Wiring for both the 117- and 12-volt power cords.

dish-orange when working, but some will only light up part of the time.

All of our tubes have a standard filament glow, the meter bulbs came on along with the bulb behind the channel indicator window and the one amp fuses didn't blow. If they had blown, we would have had to hunt down the cause of it pulling too much current. **HINT** — if they blow right after you turn the radio on, you have a short in the power supply or on one of the B-plus power or filament lines. But if it took 10 to 20 seconds or more for them to blow, you most likely have a short due to a tube pulling too much current. This is most often caused by a coupling condenser to the grid leaking voltage onto the control grid. Either is easy to trace. Be sure to look and check for the obvious: a tube in the wrong socket or someone's finger having pushed some wires together.

I forgot to mention that this unit uses the microphone to provide the speaker ground and, if that pin is not grounded, you won't get a peep out of it on receive. For temporary test purposes, you can use a clip lead from the microphone's plug pin 4 to ground. The plug is numbered on the front side. Also, to ensure that the speaker is working after you plug in the

microphone or install the jumper mentioned before, set your VOM to the R-1 scale and hold one lead to ground and touch the other to the high side of the speaker before you plug the radio into power. When you touch the lead to the speaker, you should have a "pop" from the speaker. This tells you that your jumper or microphone ground return for the speaker is OK and that the speaker will provide sound if the receiver is working. You would be amazed at how many radios we get that the owner thinks has a receiver problem when all that is wrong is a bad speaker.

After a couple of minutes of watching for smoke, a tube glowing too brightly or any other non-standard thing, we were pleased to see that none of these things occurred, and the 1-amp fuse didn't blow. These were very good signs. While waiting, we did note that all of the switches and controls were stiff and will need cleaning with a proper spray cleaner. I did momentarily "blip" the transmit line and noted that the meter hangs up at the 1/2 scale point. It will have to be replaced and may be hard to do or find.

We have some readers who have asked "why spend a whole column or two on one radio? I don't have one of those."

First, many of the tips work on other brands, like the preceding speaker test; and, second, you may find one at the local flea market next week. So save the columns for future use.

Receive Voltages

After a few minutes and all seems well, I want to check the receive voltages at the base of the audio output/modulator tube V-8. This is a 6BQ5 located just behind and slightly right of the speaker, when viewed from the rear of the unit. Measure the voltage referenced to ground. Pin 3 should be around 8 to 10 volts positive, pin 7 should be a plus 320 or so, and pin 9 should be about 10 percent less than pin 7, or about 290 to 300 volts. All of them were fine on this unit.

I had planned to do this radio in two parts, but because of all the pictures and figures and the complex nature of the unit, I can see that we are going to have to do a *third* segment. If you have any questions on old CB radios, you can E-mail me at <Oldestimer@aol.com>; or write me at: Don Patrick, 3701 Jenny Lind, Ft. Smith, Arkansas 72901. Be sure to include an SASE if you want a reply. See you next time in the March issue. ■

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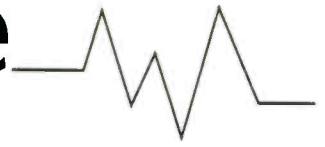
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CIRCLE 71 ON READER SERVICE CARD

Clandestine Communiqué

BY GERRY L. DEXTER



TUNING IN TO ANTI-GOVERNMENT RADIO

The Latest On Nigerian Clandestines, And Washington's Radio Free Iraq

Lately it seems that clandestine activity aimed at Nigeria continues to change monthly as additional groups discover that their views can be heard by an international audience on shortwave. The latest development is a new broadcast in support of the Igbo people, airing a program from a studio in Washington, D.C., backed by a group calling itself the Eastern Mandate Union/EMU Abroad, a group of Igbos living in other countries who want democracy for Nigeria and better treatment for their people by the current government in Nigeria, including reparations for losses suffered in the war in Biafra.

The "station" is called **Ogene Ndigbo Radio** and was initially airing a program on Wednesdays at 2100 via U.S. shortwave station WHRA on a frequency of **15.460**. The broadcast announces an address of P.O. Box 24549, Baltimore, MD 21214.

One of the several other broadcasters aimed at Nigeria is the **Voice of Free Nigeria**, which airs on Saturdays at 1900 to 2000 on **12015**, on behalf of the Free Nigeria Movement.

The anti-Khartoum station, **Voice of Sudan**, signs on at 1600 on **8000** or a half-kilohertz or so lower (check **9025** and **12008** at this hour, too). This one is run by the National Democratic Alliance and broadcasts almost entirely in Arabic (English is aired only occasionally). It is believed to operate from transmitters in Eritrea. A second broadcast goes out at 0400 on the same frequencies.

Another anti-Sudanese government station is the **Voice of Freedom and Renewal**, which operates on **7000** (actually, a shade below that) and has been noted with an ID in Arabic at 1600.

The **Voice of Iraqi Kurdistan** is operated by the Kurdistan Democratic Party on or around **4085** (that can be quite variable). Transmissions are at 0245 to 0500 and 1645 to 1900 in Kurdish and Arabic. The actual times, too, can be classified as rather loose.



During a visit to El Salvador, Fabien Serve of France took this photo of Marvin Galeas, manager of Radio 100.5 RV Stereo, an FM in San Salvador. Galeas was once the manager of the Farabundo Martí's Liberation Front's clandestine station, Radio Venceremos

Another is the **Voice of the People of Kurdistan**, which speaks on behalf of the Patriotic Union of Kurdistan. It broadcasts in Kurdish and Arabic from 0200 to 0500 and 1445 to 1800, both on **variable 4060**, and also from 1130 to 1300, generally between **6015** and **6030**. Monitors in the eastern part of North America will have a chance at hearing these stations on their evening (our time) broadcasts, but we can all forget about having any success with the 1130 airing.

The **Democratic Voice of Burma** program is now aired on **11850** via Norway, **13820** via Dushambe, Tadjikistan, and **15330** via Julich, Germany, and runs from 1245 to 1345. This broadcaster is fairly easy to hear in North America and usually responds to correct reception reports with a nice QSL card. The station's address is P.O. Box 6720, Skt. Olavs Plass, N-0130 Oslo, Norway.

By the time your eyes see these words, your ears may be able to hear the newest of Washington's growing list of broadcasting operations in the Radio Free Europe/Radio Liberty vein. **Radio Free**

Iraq should be on the air now. As of this writing, it had its staff nearly in place, and a director, David Newton, the former U.S. ambassador to Iraq (and Yemen). The Radio Free Iraq service will use the facilities of Radio Free Europe — Radio Liberty — and will be based in Prague, the Czech Republic.

There's a catch, though. Although the Czech government seemed nervous at the idea of hosting a broadcaster which might draw the ire — and perhaps the fire — of anti-U.S. elements in the Mideast, they have given an OK to Radio Free Iraq, but they insist on the right to approve of where the studios are situated (the Czechs are concerned about the possibility of terrorist attacks on the station). **Radio Free Iraq will be a service of Radio Free Europe/Radio Liberty**. You can check the status of Radio Free Iraq's progress by checking <<http://www.rferl.org>>. There should be an operating schedule posted there by now.

Remember to send your clandestine loggings to me at 25 Newbridge Road, Hicksville, New York 11801. ■



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CIRCLE 161 ON READER SERVICE CARD

Product Spotlight

BY JOE SCHROEDER, W9JUV

POP'COMM REVIEWS PRODUCTS OF INTEREST

Alinco DJ-X10T Wideband Receiver

This is one fabulous radio — a receiver that tunes 100 kHz to 2000 MHz with excellent sensitivity that's so user friendly that you can operate it right out of the box without opening the manual, and has so many neat features that you may never get around to using them all — that's the DJ-X10T! I was first introduced to the DJ-X10T at the September 1997 Radio Expo, the Chicago area's biggest fall hamfest. When I entered the Alinco booth, Evelyn Garrison, WS7A, handed me a sample radio. "What do you think of this, Joe?" she asked with a big smile, "It's our brand new wide-range pocket receiver! Why don't you take it outside, away from all the hash in this metal building and try it out — I think you'll be impressed."

"I'd love to," I replied, "but how about a manual so I can figure out how to make it play?"

"I don't think you'll need one," she said, "and besides it's so new I don't even have one yet!"

She was so right. I took it back to my van where I had some odds and ends laid out for sale, sat down in my lawn chair, and mounted a BNC-equipped telescoping 2-meter antenna to the receiver (I had learned from other "all-band" portable receivers I've owned that the best of "all-band" rubber duckies make lousy HF antennas). I keyed in 14.2 MHz and heard a familiar voice — Marti Laine, OH2BH/OH0, operating the Scandinavian Activity Contest from the Aland Islands off the coast of Finland! And he was loud! I was impressed — very impressed — and even more so when I noticed the display showed USB (upper sideband) and read 14.2000; I turned the tuning knob slightly, the pitch of Marti's voice changed just a bit, and the display read 14.2001 — this thing tunes in 100-Hz steps!

OK then, but what happens when I go to other frequencies? In quick order I key in 15.2 MHz (international broadcast). It now says AM, and tunes in 1-kHz steps. On 147.09 MHz (local 2-meter repeater): NFM, and 5 kHz steps. On 119.9 MHz

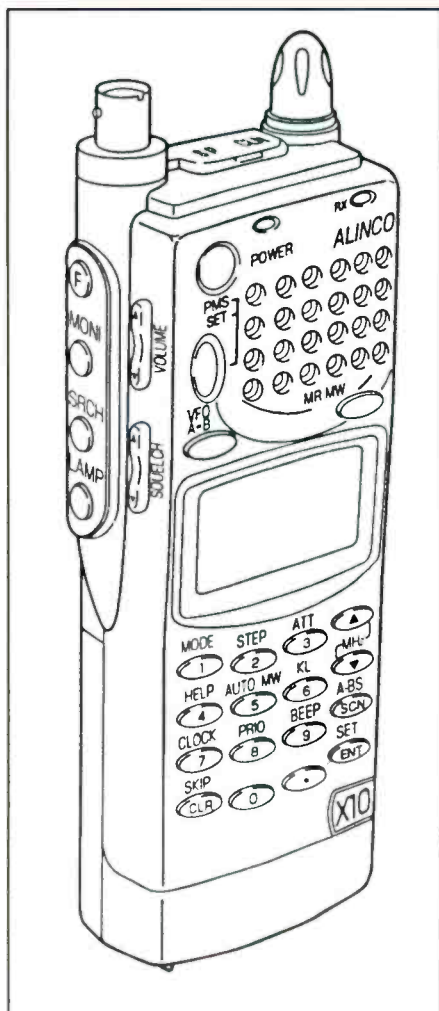
Frequency range	0.1 ~ 1999.999950 MHz	
Radio systems received	WFM, NFM, AM, USB, LSB, CW	
Frequency steps	50 Hz, 100 Hz, 1 kHz, 2 kHz, 5 kHz, 6.25 kHz, 9 kHz, 10 kHz, 12.5 kHz, 15 kHz, 20 kHz, 25 kHz, 30 kHz, 50 kHz, 100 kHz, 125 kHz, 150 kHz, 200 kHz, 250 kHz, 500 kHz	
Sensitivity (Typ.)	AM	0.1 ~ 0.5 MHz 10 μ V(20 dB μ) 0.5 ~ 5 MHz 1.5 μ V(3.5 dB μ) 5 ~ 30 MHz 1 μ V(0 dB μ) 30 MHz ~ 1000 MHz 1 μ V(0 dB μ) (1 kHz 30 %mod 10 dB S/N)
	SSB	0.5 ~ 5 MHz 0.5 μ V(-6 dB μ) 5 ~ 30 MHz 0.25 μ V(-12 dB μ) 30 MHz ~ 1000 MHz 0.5 μ V(-6 dB μ) (10 dB S/N)
	NFM	5 ~ 30 MHz 0.35 μ V(-9 dB μ) 30 ~ 1000 MHz 0.25 μ V(-12 dB μ) 1000 ~ 1300 MHz 1.5 μ V(3.5 dB μ) 1300 ~ 1999 MHz 10 μ V(20 dB μ) (1 kHz 3.5 kHz 12 dB SINAD)
	WFM	30 ~ 1000 MHz 1.5 μ V(3.5 dB μ) (12 dB SINAD)
	Memory channels	1200
Search pass mode channels	1000	
Priority channel	1	
Memory banks	30	
Channels per bank	40	
Search bands	20	
Scan speed	Approx. 25 CH/sec	
Antenna connector	BNC, 50 Ω	
Power supply	4.8V DC (Ni-Cd)/6V DC (AA dry cell)	
External power supply	8 ~ 15V DC	
Rated AF output	Min. 100 mW, 10% THD	
Power consumption	At rated output	Approx. 200 mA
	Squelched	Approx. 140 mA
	BS ON	Approx. 30 mA
Weight	Approx. 320 g	
Dimensions	57 x 150 x 27.5 mm (without projections)	
Operating temperature range	-10 ~ +50 $^{\circ}$ C	
Frequency stability	\pm 10 ppm	

*DJ-X10T (U.S. version) cellular blocked.

Figure 1. Here's a look at the DJ-X10T specs right from the manual. Though the claimed sensitivity is excellent, tests showed the sample receiver generally exceeded the factory specs by a comfortable margin.

(tower at nearby Palwaukee Airport): AM and 25-kHz steps. And on 98.7 MHz (FM broadcast): WFM and 100-kHz steps. This is one smart radio!

For the next hour I quickly ran the DJ-X10T through its basic paces. On 460-MHz UHF, I heard Chicago police dispatchers — 40 miles away. On FM and

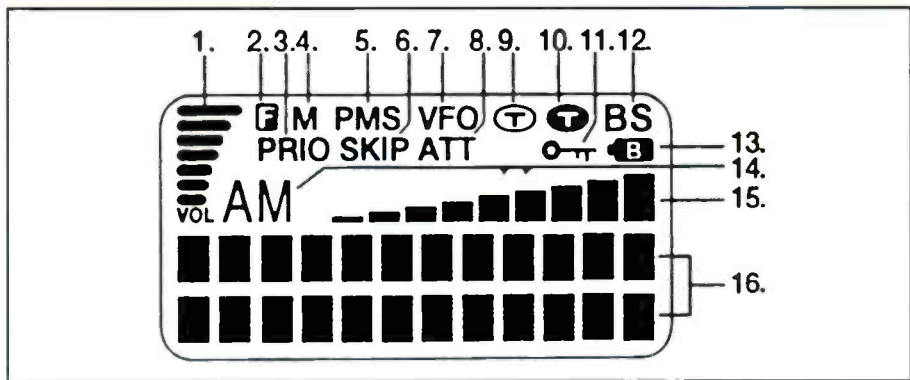


View of the DJ-X10T showing control location and labeling. Though there are lots of buttons to push, it's not difficult to master the radio. Note the volume and squelch rocker switches on the side which toggle the volume or squelch settings up or down.

AM broadcast, all the Chicago stations were loud and clear; on AM broadcast, I noted it tunes in 10-kHz steps.

At 162 MHz, I not only heard *Chicago* NOAA weather but Rockford, Illinois, and Milwaukee, Wisconsin, as well. This is also a very hot radio!

When I reluctantly returned it to Evelyn, my enthusiasm was so obvious that she asked me how I'd like to review it for *Pop'Comm*. Needless to say, I jumped at the chance. There was just one problem: the FCC hadn't yet approved the DJ-X10T for import, even though it did have cellular blocked. Until they did, no regular production unit would be available for review. Then I threw Evelyn a curve. My wife and I were going on our first Caribbean cruise in November. A radio as exotic as this deserved to be checked out in exotic locales, not just



There's lots of information in the display: Item 15 here is either the S-meter, time (when called up) or channel scope; 16 provides frequency readouts up to eight digits plus channel description in Memory Mode.

mundane old suburban Chicago! Could I borrow the sample for the cruise, if a production unit still wasn't available by then? She agreed, and so that's where I first had a chance to really get to know the DJ-X10T.

What a life: sitting in a deck chair on the afterdeck of a luxury liner, listening to shortwave broadcast, and hams from all over the world, airport and police activities from nearby islands, and South American broadcast stations. The only frustration was not having a transmitter to respond to the many exotic DX stations I heard on the ham bands!

Unfortunately for Alinco, the FCC moved at a glacial pace in approving the radio and my review production unit didn't arrive until almost a year after my first exposure to the DJ-X10T. The good news is that it was well worth the wait.

Technical Details

But so much for the background. Let's get down to the specifics. The basic specs are shown in **Figure 1**. I've checked sensitivity up to 1300 MHz using laboratory generators and found the DJ-X10T is even better than claimed over most of its range. As a long-time HF DX chaser, and sometimes VHF/UHF weak signal buff, I like to check my receivers for minimum discernable signal (MDS) — the weakest signal that can be copied on CW. I was simply amazed at the MDS of the DJ-X10T: Under .2 μ v from 500 kHz to 2.5 MHz; under (mostly well under) .1 μ v from 3 through 700 MHz (though a narrow band around 450 MHz measured just above 1 μ v); and just under .2 μ v from 700 to above 1000 MHz! By the way, an MDS of .05 μ v is roughly equivalent to a .25 μ v, 12 dB quieting FM signal. These are outstanding numbers for any wide-range

communications receiver, much less one that fits in your hip pocket!

Of course it's possible that there a few "dead spots" (other than cellular, which of course is blocked) somewhere in its incredible tuning range. But, if so, I have yet to find them!

Finally a small, but important point. The radio uses a drop-in charger; no more fumbling with wall cubes. And as a "thanks for your patience" promotion for early DJ-X10T buyers, for a limited time, Alinco provided two NiCd packs instead of the standard one NiCd.

One of the things that initially — and still — impresses me is how easy this radio is to use, at least for most purposes (though I never did figure out how to store memories until I got a manual). Key in a frequency, press Enter, and you're listening to that frequency — in the appropriate mode and tuning step. If you want to change the mode, press Function and then Mode and you'll see a menu with AUTO at the top followed by AM, NFM, and the other modes. When AUTO is selected, you automatically get the appropriate mode for the frequency you've keyed in. If you want a different mode, select it with the tuning knob and press Enter.

The automatic mode selection is not always infallible, however. When you key in WWV on 15 or 20 MHz, it selects upper sideband (USB) instead of AM; 2.5, 5, and 10 MHz gives you AM as it should. Also, on 2 meters and higher ham bands, it selects NFM across the entire band, even though those bands do have CW and SSB segments. Pretty minor gripes, but worth noting.

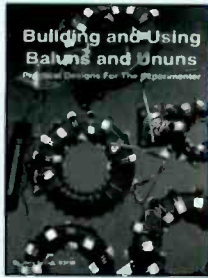
Similarly, if you want to select a specific tuning step, Function plus Step gives you the STEP menu. Selecting AUTO automatically selects tuning steps generally appropriate to the frequency you've chosen. However, if for example you

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want to rapidly tune a CW band to search for possible activity, you might want to select 1- or even 2-kHz steps instead of the much slower 100-Hz automatic step.

Channel Scope is another of the really neat features of the DJ-X10T. This function, activated by the SRCH button on the side of the radio, provides a visual scan of the band immediately above and below the frequency to which you are tuned. Signals in the search band appear as spikes in the display, the height of which is proportional to relative signal strength. Tuning the radio while in Channel Scope mode moves the display up or down, and whichever signal's spike is centered will be heard by the receiver.

The Channel Scope tuning range is 40 tuning steps. If you're in VHF NFM auto mode (5-kHz steps), the Channel Scope display will span 200 kHz ($5 \times 40 = 200$), but if you're in the auto SSB or CW mode (100-Hz steps), it will be only 4 kHz ($.1 \times 40 = 4$). The search refreshes every 10 seconds, and reception is blanked for about a second during refresh.

Plenty Of Memory

The DJ-X10T has 1,200 memory channels, and here Alinco has provided a real

bonus — with a “Good News, Bad News” aspect. The good news is that they have factory-loaded in hundreds of very interesting frequencies: shortwave, aircraft, VHF, and UHF. The bad news is that, due to some obscure computer programming glitch, most of these have a built-in audio squelch that can't be turned off! Those channels that aren't so afflicted do provide interesting listening. Doug Wynn of Alinco assures me that he expects to have that problem, along with the others, solved soon. In the meantime, re-entering a frequency in any of the blocked channels restores normal audio so those channels aren't permanently lost. Happily, one pre-programmed block that does not have the blocking problem includes all TV audio channels from 2 through 69! With a DJ-X10T, you can catch the evening news or your favorite TV talk show no matter where you are — in the car or at the beach.

The DJ-X10T has a host of other features, of course: those 1,200 memories have a variety of memory scan modes, including an Auto Memory Write. There are two VFOs, a clock function with Off and On timers, a PMS mode, which scans any of 20 preselected ranges, a priority channel, battery save and more. You'll have to read — no, study — the very complete 56-page manual before you'll become really expert with this radio. There is also both a Beginner's and Expert's operating mode. And though the radio comes out of the box in the Beginner's Mode, some of the really neat features aren't accessible there. I didn't find the Expert's Mode that tough to start with.

An important technical note: The very first time I used the DJ-X10T, I noticed no apparent internal microprocessor noise. Every other compact receiver I've ever had an opportunity to use had a lot of internally generated hash of varying amplitude and frequency, depending on how you held the radio and the antenna's orientation. The DJ-X10T has absolutely none that I could detect. A real plus!

Criticisms

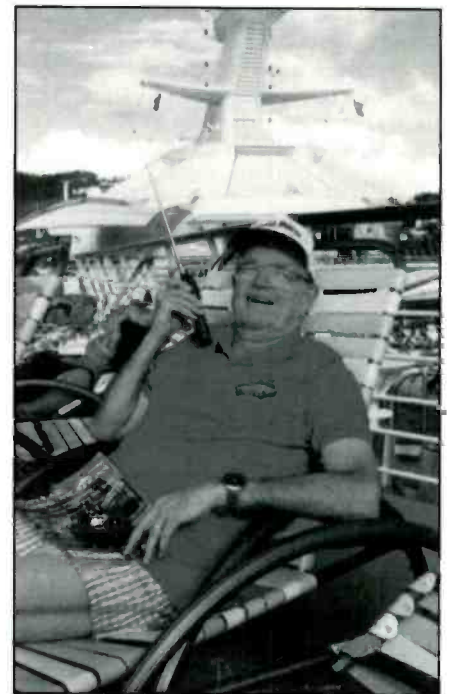
Does it have any warts? You bet. Images are very noticeable on some frequencies. For example, at some times of the day I've heard a loud international broadcast station on 5 MHz, though not in the evening when WWV is audible. I found fairly strong FM broadcast images where channel 6 TV would be if we had it here, and some very weak ones in the aircraft band, TV Channel 60's audio



Programming the DJ-X10T wideband receiver.

(751.75 MHz) can also be heard at 1289.85 MHz.

I've also found a few internally generated spurs, including a fairly strong one at 448.0 MHz, but most are weak enough



This is the life! Here's the author checking for local VHF activity from the deck of Rhapsody of the Seas while anchored in the harbor in the French West Indies.

not to be a problem. There's also some weak TV buzz in the aircraft and NOAA weather bands, but again not enough to bother reception. All that said, however, spurious responses like these are to be expected in any receiver that doesn't have room for lots of high-Q preselector circuitry — some even turn up in top-of-the-line lab-quality radios!

Similarly, the DJ-X10T receiver can be overloaded. With as much gain as this receiver has in order to achieve its exceptional sensitivity, expect to have some overload and cross modulation when too much antenna is used. This is one reason I like using a telescoping whip — if you do experience overload, simply shorten the antenna or engage the radio's attenuator function.

I'd also like a bit more selectivity on AM. Alinco is using the narrow FM IF (15 kHz) for AM, with the result that it's sometimes a bit hairy separating closely spaced international broadcast stations. However, selectivity on SSB and CW modes — though not particularly sharp — should be plenty adequate for most users.

The DJ-X10T has one odd glitch I noticed, though only on SSB or CW. When tuning across either type of signal, the tuning jumps backward about 800 Hz

when tuning on the low side of zero beat. Most of the time when tuning these modes, I don't even notice it, but it is there. It may do the same thing on other modes as well, but their tuning resolution is such that it's not noticeable.

A Word About Antennas

I was actually impressed with the six-inch rubber duck that comes with the radio. It does pick up signals, from AM broadcast through UHF TV. That said, however, the only place it's as good as even a fully telescoped whip is at UHF. Everywhere else, though, you can indeed hear signals and even have a lot of fun with the DJ-X10T. You won't hear nearly as many signals or hear them as well as you can with a telescoping whip antenna.

The antenna I ended up using has eight sections; telescoped it's only six-inches long (ideal for UHF) while it extends to 40 inches! On the shortwave, AM broadcast, and even NOAA weather bands, I easily copy signals on the whip that I can't even detect on the duck!

Finally, one of the many things I like about Alinco is their battery philosophy. With the DJ-X10T they give you a NiCd

battery pack, plus a drop-in charger! No more wall cubes!

Summing It All Up

I'm convinced that for its size the DJ-X10T is a truly great radio! Its excellent performance and ease of use over an extremely wide frequency range have made it a necessary addition to my ham-shack's extensive stable of radios. No matter where I am, with it I can check world news from BBC or VOA, tower traffic at the local airport, solar conditions, or precise time from WWV. I can learn why the local police are running around with sirens screaming, whether there's anything interesting going on any of the ham bands I operate, or even what's going on with local AM, FM, or TV broadcasters. Do I like all that capability in my pocket? You bet I do! Check it out and I'm sure you will too!

Note: To translate MDS into the equivalent FM quieting specs, at 51.5 and 151 MHz where MDS measured .04 μv the receiver required a .2 μv signal for 12 dB quieting and .6 μv for full quieting. At 1101 MHz (MDS .3 μv), 12 dB quieting was 1.4 μv and full quieting about 2.8 μv .

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Broadcast DXing

DX, NEWS AND VIEWS OF AM AND FM BROADCASTING

BY BRUCE CONTI
<BAConti@aol.com>

Real Life X-Files

The mysterious disappearance of syndicated overnight talk show host Art Bell has everyone talking. Bell pulled the plug on his broadcast career in a surprise announcement on his program, citing a threatening series of events that placed his family at risk. Furthermore, Bell went into hiding, disconnecting his phone and essentially disappearing off the face of the Earth, in what many believe to be a real-life X-Files occurrence. In his final broadcast, Bell said that for the protection of his family, he could not reveal the reason behind the sudden sign-off.

Bell is famous for his investigation of the paranormal on his "Coast-to-Coast" and "Dreamland" talk radio programs. UFO sightings, alien abductions, and government conspiracies were often the central themes of the talk shows. Bell also supported a theory called "The Quickening," which predicted the coming of a New World order. Some thought the disappearance was the direct result of Bell's beliefs and programs, while others were suspicious of a publicity stunt. Nevertheless, the story has captured the imagination of millions of listeners. "Coast-to-Coast" was the most listened to overnight talk radio program across the nation. For the latest on the Art Bell situation, visit his Website at <<http://www.artbell.com>> — that is, unless you fear that someone is monitoring you!

More News!

Former Green Beret Colonel James "Bo" Gritz announced on his radio talk show that a member of his volunteer group trying to locate abortion clinic and Atlanta Olympic bombing suspect Eric Rudolph may have sighted the fugitive outside their camp in North Carolina. Gritz hosts a talk show on the Talk America Radio Network. Gritz said on his program that someone might have been scouting the search group on behalf of Rudolph, later speculating that it could have been Rudolph himself.

Billboard's afternoon rock jock of the

year, Nik Carter on WBCN 104.1 FM in Boston, was recently in hot water after an uncensored interview with Pearl Jam guitarist Mike McCready. In a live phone interview, McCready used a particular explicative repeatedly. Carter was suspended for not following the station's policy which required a seven-second delay for live interviews, or that they be taped for later broadcast to censor inappropriate language.

A number of legitimate advertisers, including candidates for Congress, have been heard advertising on a local pirate radio station, Prayze 105.3 FM, in the Hartford, Connecticut region. This is upsetting some licensed broadcasters competing for the same advertising dollars. Despite license applications for Prayze FM being denied by the FCC, the station has continued to broadcast illegally. Recently, Prayze FM challenged the FCC in court to remain on the air — and won. The FCC is appealing the ruling. Prayze FM covers about a 20 to 30-mile radius from Bloomfield, Connecticut. Programming is reported to be professionally produced, unlike the raw nature of most pirate broadcasters. Prayze FM is especially popular in the region's African American communities, providing gospel music unavailable on other local stations, along with R&B and rap. WKND Windsor on 1480, the region's licensed African American station, has filed a complaint with the FCC.

The BBC news team has been experiencing growing pains over the installation of a new digital recording system coinciding with a move to new studios still under construction. Listeners to local and World Service news programs were perhaps entertained by a number of embarrassing bloopers, but the BBC news staff wasn't laughing, calling it a disaster for the world-respected news organization and threatening a strike if the problems weren't resolved.

WCVB channel 5 TV in Boston commenced digital broadcasting in November. This is ahead of the FCC-mandated 1999 start for digital TV in

"... Bell said that for the protection of his family, he could not reveal the reason behind the sudden sign-off."

major metro areas. Unfortunately, the first digital televisions to hit the market will be well beyond the reach of many consumers. List prices are in the \$10,000 range, but are expected to drop as more receivers hit the market and competition heats up.

X-Band Files

Rick Dau of the National Radio Club reports that KCJJ Iowa City, Iowa, has moved from 1560 to 1630 kHz. According to KCJJ general manager "Captain" Steve Bridges, 1560 was taken off the air with completion of the move. And in a phone call to the station by Patrick Martin, Bridges said that the station was being heard across the U.S., mentioning strong reports from Arizona.

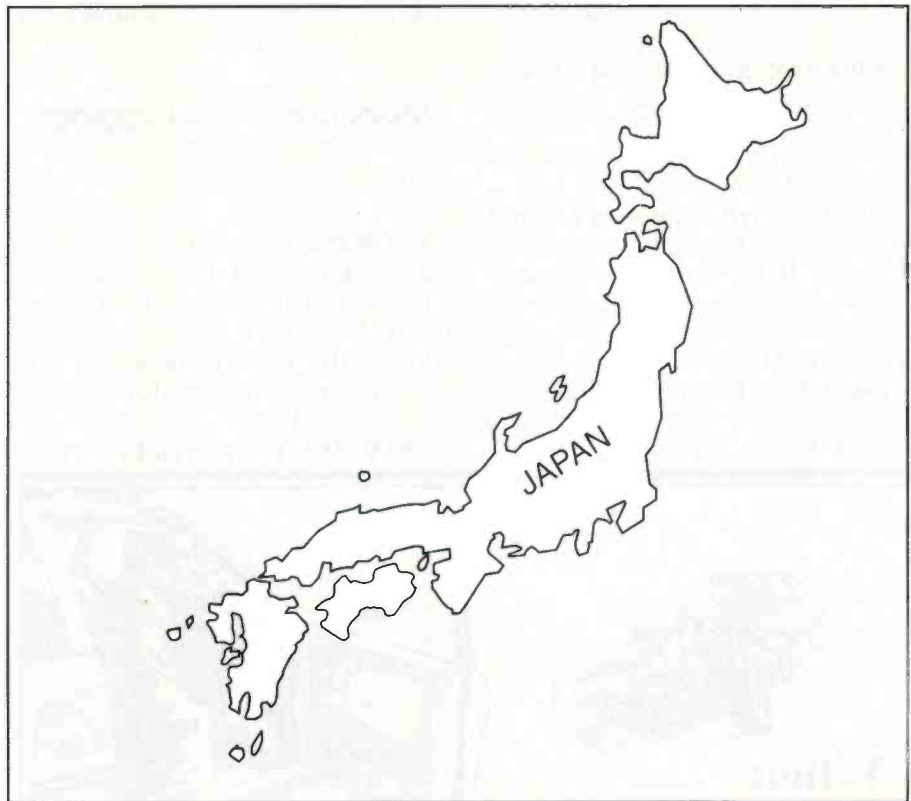
On 1680 kHz, R&B and rap are being heard with WBHD Ada, Michigan, now on the air. For a brief period, WMDM Lexington Park, Maryland, on 1690 was simulcasting its FM with country music overnight, and more recently has been heard carrying Bruce Williams.

Japan's Lighthouse Stations

There are 28 lighthouse stations operating in Japan (see box). All operate every hour for one to three minutes, giving weather and ID info. All operate on 1670.5 kHz in the H3E mode. Station location and the time the station is on are announced in the identification. No call letters are used. All stations ID in a pattern like this: "Kakukyoku, kakukyoku, kakukyoku (station name), (station name), (station name) . . . (weather information), owari. Kochiraha (station name) kurikaeshimasu . . . (weather information) . . . owari. Kochiraha (station name),

Japan's Lighthouse Stations

Location	Time (min:sec)
1) Miyakojima	00:00-02:20
2) Toi	06:30-08:30
3) Ashizuri	10:40-12:10
4) Muroto	12:10-13:40
5) Osaka Harbour Rader	13:40-15:10
6) Shionomisaki	15:10-16:50
7) Daio	16:50-18:30
8) Iro	18:30-19:50
9) Hachijojima	19:50-21:30
10) Nojima	21:30-23:10
11) Inubo	23:10-24:50
12) Kinnka	26:30-28:10
13) Todogasaki	28:10-29:30
14) Shiriya	29:30-33:30
15) Erimo	33:00-34:40
16) Kushiro Harbor Radar	34:40-36:20
17) Meshima	36:20-38:00
18) Wakamiya	38:00-39:40
19) Kamitsushima	39:40-41:20
20) Hagimishima	41:20-43:00
21) Takohana	40:00-44:30
22) Echizenmisaki	44:30-46:00
23) Hegura	46:00-47:40
24) Awashima	47:40-49:20
25) Nyudosaki	49:20-50:50
26) Tappi	50:50-54:20
27) Shakotann	55:40-57:50
28) Yagishiri	57:50-00:00



kurikaeshimasu . . . (weather information). . . owari. Kochiraha (station name). Sayonara." All stations operate with 50 watts and are 24 hours. This information was relayed by Patrick Martin from fellow DXer Osamu Aikawa of Japan. Note: Many of the station locations are not listed on a map, as they are "lighthouse locations" and not a town.

While we're in Japan, here are some broadcast changes of note also from Osamu Aikawa. JOXR, 783 kHz is now on 864 with 10 kW. JOIP has moved from 819 to 639 kHz, still 5 kW. JOAQ has moved from 981 to 819 kHz, still with 1 kW. NHK Sasebo is now a sister station of NHK Nagasaki (JOAP 684 kHz) and relays NHK-Nagasaki's program and ID; no ID for NHK Sasebo. New stations on the air: JOCR Kobe-Tajima on 1395 kHz with 1 kW, and JOAR Nagoya-Gifu on 639 kHz with 500 watts.

DX Tests

North America's two major medium-wave DX clubs, the National Radio Club (NRC) and the International Radio Club

of America (IRCA), arrange for DX tests to be conducted by AM radio stations while servicing equipment or facilities. Tests are typically scheduled for after midnight local time, when the FCC allows stations to test with different antenna patterns and output power, including non-directional operation at full power. During normal nighttime operation, many AM stations operate at reduced power and with a directional antenna pattern to prevent interference with other stations. Non-directional full-power operation often results in a wider coverage area, allowing DXers to log a station that might otherwise be nearly impossible to hear. In addition, these stations will verify all correct reception reports. Program material during a test may include special announcements, Morse code, and unique music such as polkas or marching bands for easy identification. Here's some DX test information courtesy of the NRC. For more information about the NRC, visit their Website at <http://alpha.wcoil.com/~gnbc/>.

KLER-1300 (P.O. Box 32, Orofino, ID 83544-0032) tested at 0200 and 0215 Eastern Time on Monday, November 2. The test was comprised of tones and Morse code IDs, using 5 kW non-directional. Reports may be sent to Mr. Jeff Jones, Owner.

WODI-1230 (1230 Radio Road, Brookneal, VA 24528-3141) tested at

"A number of legitimate advertisers, including candidates for Congress, have been heard advertising on a local pirate radio station . . ."

0200 Eastern time Monday, November 16, for an unspecified period with 1000 Hz tones, Morse code IDs, and Cajun fiddle music. Reports may be sent to Mr. Dave Marthouse, President/GM WODI (Dave is also a member of the NRC's DX Audio Service). Test arranged by Bill Hale for the NRC.

KQTY-1490 (P.O. Box 165, Borger, TX 79008-0165) tested on Monday, November 23, and Monday, November 30. Code IDs accompanied their normal top-of-the-hour station ID and network ID breaks from 0159 to 0559 Eastern Time. KQTY is an SMN/Real Country affiliate. Reports may be sent to Mr. George Grover, Station Manager. Test arranged by Bill Hale for the NRC.

QSL Information

693 4KQ Brisbane, Australia, Received letter, stickers, and info about the station in 22 days for a taped report, signed Peter Verhoeven-GM. Address:

P.O. Box 693, Stones Corner, QLD 4120.
Aussie QSL #211. (Martin, OR)

990 KTMS Santa Barbara CA, in five days for a taped report, verie signer unreadable. Address: 5360 Hollister Avenue, Santa Barbara CA 93111. (Martin, OR)

1161 2XM Wellington, New Zealand, letter in 87 days for a taped report, signed Brian E. Hemmingsen — Manager. Address: 128 Featherston Street, Level 2, P.O. Box 2705, Wellington. New Zealand QSL #101. (Martin, OR)

1340 KVSN Tumwater WA, letter in five days for a taped report, signed Donald Trosper. Operations Manager.

Address: P.O. Box 4207, Tumwater WA 98501. (Martin, OR)

Broadcast Band Loggings

All times are UTC.

640 R.Progreso, Cuba at 0250 with "la onda de la alegria" ID, disco, and salsa music, ad for Gilberto Santa Rosa concert on "FM estereo o con onda media." (Conti, NH) At 0415 dominant with Spanish female vocal parallel 660 kHz. (Connelly, MA)

690 WOKV Jacksonville FL, heard at

0030 "Dreamland with Art Bell" talk about crop circles, News-Talk 690 WOKV ID, and hurricane evacuation PSA. (Conti, NH)

690 R.Drago do Mar, Fortaleza, Brazil at 0025 with telephone talk in Portuguese, reverberated announcements mentioning Fortaleza, atop Florida with no trace of CBF-Montreal thanks to auro-
(Connelly, MA)

720 RJR Kingston, Jamaica at 0155 with reggae and disco music. (Conti, NH) At 1000 with religious music and clear Radio RJR ID. (Connelly, MA)

1160 VSB3 Hamilton, Bermuda alone on the frequency at 2300 with BBC radio drama parallel 5975 SW. (Connelly, MA)

1470 KOME Sacramento CA. I don't know when they made the switch, but I noted during my home-bound commute that KQPT-1470 is now KOME, using slogans "Low Rider Oldies For Sacramento" and "1470 The Cruiser." (Toebe, CA)

1395 Business Radio, Lopik, Netherlands at 0335 fair with news items in Dutch and news theme music inter-ludes. (Conti, ME)

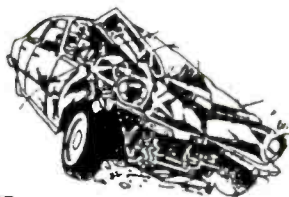
1494 JRTV Al Karanah, Jordan heard at 0150 fair with flute instrumental background music and a man in Arabic into 0200 news parallel 11935 SW. (Conti, ME)

1521 BSKSA Duba, Saudi Arabia, sign-off at 2300 with anthem parallel 9555 and 9870 SW. (Conti, NH)

1630 KCJJ Iowa City IA, at 0400 with a great signal and full programming. They were giving frequent IDs and in 45 minutes of listening every ID I heard was different. The music was a mix of old and new modern pop. (Griffith, CO)

Mark Connelly reports that the first weekend of the autumn Newfoundland DXpedition only produced what could be called "ordinary" DX. Indeed for the first couple of months of the mediumwave DX season, transatlantic DX seemed subdued, dominated by short skip from Spain and the mouth of the Mediterranean. However, there have been a couple of good auroras, providing for brief periods of good Caribbean and Latin American DX, as evidenced by some of this month's broadcast band loggings.

We'll have more from Newfoundland, along with your loggings next month. Thanks to Osamu Aikawa, Henry Bialoglowy, Mark Connelly, Rick Dau, Glenn Diggs, Bob Gilbert, Patrick Griffith, Allan Hislop, Patrick Martin, and Rich Toebe. 73



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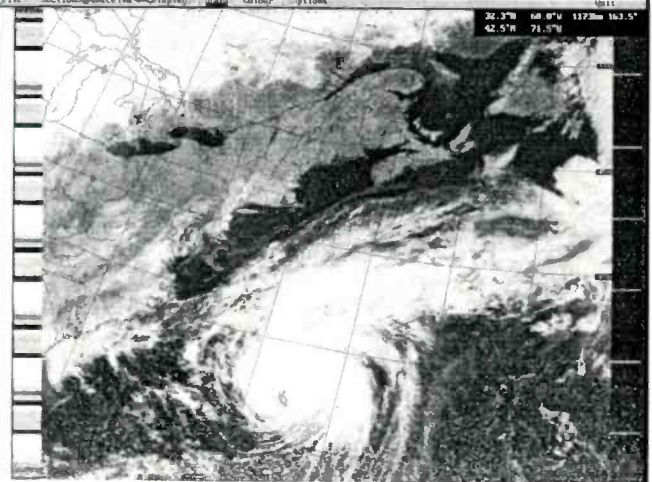
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AZ	Holbrook	90.3 MHz	250 watts
CA	China Lake	91.7 MHz	3 kW
CA	Hams Station	90.1 MHz	
CA	Lafayette	102.1 MHz	(KDFC booster)
CA	Lompoc	88.1 MHz	7.6 kW
CA	San Joaquin	89.7 MHz	1.5 kW
CA	Santa Maria	89.7 MHz	2.45 kW
CA	Soledad	89.9 MHz	250 watts
CO	Brush	89.5 MHz	5 kW
CO	Colona	89.9 MHz	
CO	Durango	88.5 MHz	3.1 kW
CO	Glenwood Sprgs.	88.1 MHz	650 watts
CO	Leadville	88.3 MHz	
CO	Olathe	89.9 MHz	
CO	Sterling	90.7 MHz	250 watts
DE	Pike Creek	88.1 MHz	
FL	Deltona	89.5 MHz	100 watts
FL	Key West	89.1 MHz	25 kW
FL	Tavares	90.3 MHz	
GA	Jasper	88.3 MHz	100 watts
IA	Cascade	88.9 MHz	2.25 kW
IA	Creston	90.9 MHz	250 watts
IA	Marion	89.9 MHz	
IA	Marshalltown	88.7 MHz	
IA	Marshalltown	91.5 MHz	
IA	Oskaloosa	90.5 MHz	
ID	Post Falls	90.3 MHz	100 watts
ID	Rathdrum	90.3 MHz	
IL	Gridley	90.3 MHz	
IL	Peoria	90.7 MHz	
IN	Chesterton	91.1 MHz	1.4 kW
IN	South Haven	91.1 MHz	150 watts
IN	Tipton	88.3 MHz	
KS	Emporia	89.7 MHz	3 kW
KS	Independence	90.9 MHz	
MI	Augusta	90.9 MHz	360 watts
MI	Benton Harbor	89.9 MHz	275 watts
MI	Mackinaw City	88.5 MHz	4.6 kW
MI	Muir	88.5 MHz	
MI	Trout Lake	89.9 MHz	500 watts
MN	Alexandria	89.5 MHz	7.2 kW
MN	International Falls	91.9 MHz	
MO	Country Club	89.7 MHz	3.2 kW
MO	Moberly	90.1 MHz	250 watts
MT	Billings	89.9 MHz	1 kW
NC	Hickory	89.1 MHz	500 watts
NC	Ogden	88.3 MHz	
NC	Scott Hill	88.3 MHz	
NE	Grand Isle	91.5 MHz	6 kW
NE	Hastings	91.7 MHz	100 kW
NE	Wilber	89.9 MHz	4.8 kW
NJ	Beach Haven West	88.3 MHz	100 watts
NV	Reno	101.3 MHz	(KRNG booster)
NY	Montgomery	88.1 MHz	100 watts
OH	Delaware	89.1 MHz	
OH	Waverly	88.5 MHz	350 watts
OR	Bend	88.1 MHz	450 watts
OR	Gleneden Beach	89.3 MHz	
OR	Salem	90.3 MHz	135 watts
OR	Tillamook	91.1 MHz	
RI	Coventry	91.5 MHz	100 watts
TN	Clifton	106.5 MHz	
TN	Lawrenceburg	88.5 MHz	150 watts
TX	Alice	88.1 MHz	
TX	Bay City	89.5 MHz	22 kW
TX	Bloomington	91.5 MHz	25 kW
TX	Bluff Dale	90.5 MHz	9.9 kW
TX	Bushland	91.5 MHz	
TX	Floresville	89.7 MHz	

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WI	Richland Center	89.3 MHz	18 kW
WV	Elkins	91.9 MHz	275 watts
WY	Laramie	90.1 MHz	100 watts
WY	Laramie	90.9 MHz	25 kW

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IN	Greenfield	89.7 MHz	
MI	Negaunee	99.5 MHz	1.85 kW
TX	Plainview	88.5 MHz	
WY	Glendo	100.1 MHz	

Proposed Changed AM Call Letters

New	Old	
KDAV	KLLL	Lubbock, TX
WDMN	WVOI	Toledo, OH
WHAN	WPES	Ashland, VA
WNSG	WKDA	Nashville, TN
WRTB	WLVU	Dunedin, FL

Changed AM Call Letters

New	Old	
KEYT	KTMS	Santa Barbara, CA
KICS	KMEM	Hastings, NE
KKMO	KZTS	Tacoma, WA
KQQA	KNEZ	Creedmoor, TX
KRBT	WEVE	Eveleth, MN
KRTK	KRCD	Chubbuck, ID
KWLW	KFAM	N. Salt Lake City, UT
WAXP	WNML	Warner Robins, GA
WHIM	WTLN	Apopka, GA
WJOT	WAYT	Wabash, IN
WKGE	WERD	East Point, GA
WMAC	WMWR	Macon, GA
WYPC	WJTD	Wellston, OH

New FM Call Letters Issued

KANG	Lake Havasu City, AZ
KBGP	Belview, WA
KBGQ	Harrisburg, AR
KBGT	Hastings, NE
KBGU	Ingalls, KS
KBGV	Clear Lake, SD
KBGX	Newport, OR
KBGY	Faribault, MN
KBGZ	Galena, KS
KBHA	West Village, TX
KBHD	Gregory, TX
KBHH	Kerman, TX
KBHI	Miner, MO
KBHJ	Jackson, WY
KBHM	Johannesburg, CA
KBHN	Hydesville, CA
KBHO	Boonville, MO
KBHQ	Moapa Valley, NV
KBHV	Wellton, AZ
KBHY	Atkins, AR
KBIE	Ingalls, KS
KBIH	Coeur D'Alene, ID
KBII	Hatfield, AR
KBII	Mena, AR
KBIK	Ada, OK
KBIL	Grand Isle, LA
KFMK	Round Rock, TX
KGKS	Scott City, MO

KHBX	El Dorado, AR
KISK	Shasta Lake City, CA
KKAW	Albin, WI
KKXR	Sun Valley, NV
KLFO	Florence, OR
KNYN	Ft. Bridger, WY
KQIB	Idabel, OK
KSOB	Dell Rapids, SD
KSQB	Flandreau, SD
KTXI	Ingram, TX
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WBDO	Cross Hill, SC
WBDS	Norlwa, NC
WBDW	Knoxville, IL
WBEH	Norris, TN
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WPEP	Siren, WI
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WBFL	Prentiss, MS
WDLS	Old Forge, NY
WFAL	Falmouth, MA
WJOK	Kentland, IN
WMLV	Dekalb, MS
WRGF	Greenfield, IN
WSVP	Emporia, VA
WZKR	Kosciusko, MS

Proposed FM Call Letter Changes

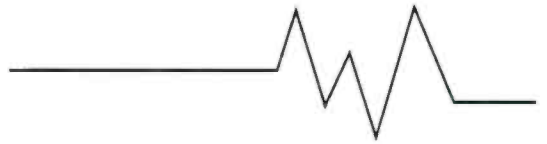
New	Old	
KLNO	KMBV	Navasota, TX
KPRF	KNSY	Amarillo, TX
WMTT	WMKB	Ridgebury, TX

Changed FM Call Letters

New	Old	
KCLS	KELY-FM	Ely, NV
KDND	KXOA	Sacramento, CA
KHFX	KBFU	Ball, LA
KKED	KUAB	Fairbanks, AK
KKXX-FM	KSMJ	Bakersfield, CA
KLEY-FM	KRIO-FM	Floresville, TX
KROR	KEZH	Hastings, NE
KKROW	KAAM-FM	Huntsville, MO
KSMJ	KKDJ-FM	Delano, CA
KTTA	KZAC	Esparto, CA
KXZN	KXIL	Sanger, TX
WBHR-FM	WXKX	Parkersburg, WV
WBKX	WAZN	Yankeetown, FL
WBMZ	WHCG-FM	Metter, GA
WCLX	WYPC-FM	McArthur, OH
WJOT-FM	WWIP	Wabash, IN
WKIX	WAUE	Beaverdam, KY
WNGN	WNGX	Argyle, NY
WOBE	WAQJ	Crystal Falls, MI
WPUR	WZZP	Atlantic City, NJ
WRKG	WYOC	High Springs, FL
WRVB	WURN	Marietta, OH
WSOX	WTHM-FM	Red Lion, PA
WTNX	WWSY	Sharpsville, PA
WVGN	WVNX	Charlotte Amalie, VI
WXXK	WHCK	Parkersburg, WV
WXSS	WAMG	Little Rock, AR
WXTM	WALC	Jerseyville, IL
WZEC	WNGN	Hoosick Falls, NY
WZKR	WFON	Stephenson, MI

The Listening Post

BY GERRY L. DEXTER



WHAT'S HAPPENING: INTERNATIONAL SHORTWAVE BROADCASTING BANDS

Live From Maine, It's WBCQ — The Planet, And Norway Pulls The Plug

WBCQ — The Planet — is now on the air from rural Maine. The station is currently operating only during the late afternoon and evening hours (as early as 2200 and as late as 0600), running 50 kW on **7415**. The programming includes a wide variety of block segments with content ranging from “commercial” religion to anti-whatever talk shows to eclectic music. And from what we've been able to gather, the station is being well received, both from a signal and appreciation standpoint. WBCQ's address is: WBCQ, The Planet, 97 High Street, Kennebunk, ME 04043. The actual transmitter site is a few miles outside of Kennebunk, at Monticello, Maine. Check their Website at <<http://theplanet.wbcq.net>> for updated information on current programs.

Apparently the first tests have been run at **WWBS, Macon, Georgia**, so we may hear this one on regular schedule before long. It's taken these guys awhile to pull everything together. Keep an ear on **11910** (or 11905).

Remember the old TV comedy show “Laugh In” back in the late '60s (back when the network comedies were actually funny?). One of the many standard lines on that show was “Sock it to me!” Well, that's what Radio Norway — actually NRK, the Norwegian state broadcaster — has done to us. They've pulled the funding — a whopping \$66,000 per year — and so Radio Norway has had to discontinue its weekly half-hour English program “Norway Now,” which, under one name or another, had been on the air since the 1950s. You can send your complaint to Radio Norway International, N-0340, Oslo, Norway.

There may be a rather unusual — and temporary — station on the air from the **Central African Republic**. The United Nations is putting up a station called Radio Minurca as part of a UN mission in that country. It may end up using the oddball frequency **9900**. Wherever it shows up, it won't be a permanent operation. Once the UN's effort there has been



Five radios (one not shown), including a Kenwood R-1000 and Drake SW-1, grace the shack of Karl A. Holt of Delhi, New York.

completed, the station will probably go off the air.

Switzerland has taken another of its transmitter sites off the air. The site at Lenk has joined the Schwarzenburg location in history. This departure shouldn't affect us much since the Lenk site serviced Europe. Only Sottens, with its 500 kW units, is operative now.

“**Brussels Calling**” — the daily English program from Radio Vlaanderen International is now on the air at 0830 on **9925 and 9940**; 1130 on **9925 and 13745**; 1730 on **5910, 12080, 13650**; 1830 on **13745 and 2230 on 13670** — this latter one via Bonaire, Netherlands Antilles.

Africa Number One, in **Gabon**, is on the air from 0500 to 0700 on **9580**; 0700 to 1600 on **9580 and 17630**; 1600 to 2100 on **9580 and 15475** and from 2100 to 2300 on **9580**.

AFRTS transmissions continue to be heard on shortwave, but expect the plug to be pulled at any time. It's simply too good to last! Frequencies in use at this writing are **4278.5, 6458.5, and 12689.5, all in upper sideband**.

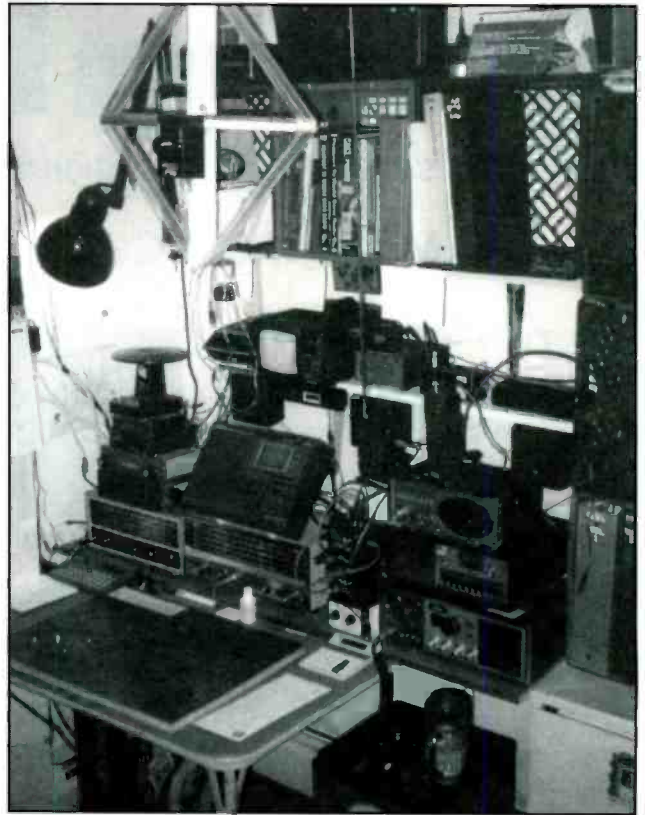
J.R. Stephens in Washington state sent

us a very good article from the July/August issue of *Disabled American Veteran* magazine. The article, “Short-Wave Radio Monitors Let Families Know of Their Capture,” recounts the great work a number of SWLs did during WWII in monitoring Axis broadcasts for announcements about POWs — then notifying the families that their loved ones were alive, often providing the first word the families had received.

Army Sgt. Frank Davis was one of those prisoners of war whose family was notified that he was alive. Until he went through his mother's personal effects and found some three dozen cards and letters from shortwave monitors notifying her that Sgt. Davis was alive, he'd been completely unaware of any of this. Now Davis is working to get a memorial which would honor these shortwave monitors for the many hours and dollars they spent to bring peace of mind to worried families. Davis is trying to locate more of these monitors, and get information about those who are no longer living. If you know or know of someone who was active in monitoring prisoner of war



Here's the QSL card of WBCQ — The Planet — the latest new U.S. shortwave station, operating from Maine on 7415. (Thanks to Edouard Provencher)



Ed Lindley covers everything from the AM broadcast band to shortwave, FM, TV, and CB from his shack in Biddeford, Maine.

broadcasts, please write to Mr. Davis at P.O. Box 6207, Stanton, DE 19804 — or you can call him at 302-994-0109.

You know, we never finish one of these columns without having to check a frequency, look up the spelling of a station name or a mailing address, or figure out whether a particular log was relayed from another transmitter site. Our main source — the rock of information we rely on is *Passport to World Band Radio* (PBWR). If you are into shortwave listening, monitoring, or DXing, this yearly guide to what's on and where to find it is nothing short of indispensable. You can order it through most SWL and ham radio suppliers or check your local bookstore. If they don't have it in stock they can get it for you.

Remember that we always need and appreciate your shortwave station loggings. The only requirements are that you list your logs by country, double-space between items and include your last name and state abbreviation after each item. We also appreciate receiving spare station photos, literature, and schedules for use as illustrations. Also QSL cards and information on any changes in or clarifications of station QSL policies, address changes are needed.

Back when yours truly got active in shortwave, one of the most exciting things that could happen to you was to open up

one of the nationally circulated radio magazines and find your shack photo had been featured that month! Either people today find it no big deal, or they're shy. Whatever the reason, we don't get many shack photos these days. That said, note that two brave souls came forth this month. How about the rest of you?

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.

ANGOLA — Radio Nacional, **4950**, 2345 to past 0000 with variety of local pop, U.S./Euro pops. PP announcements, ID at 0000. // **7244.93** and **3374.91**. (Alexander, PA)

ANTIGUA — BBC, **5975** monitored at 0300 with news update, Prom Concert. (Jeffery, NY)

ALBANIA — Radio Tirana, **6220** at 0130 with local news and music. (Lindley, ME) **12085** at 1554 with news. (Ziegner, MA)

ASCENSION ISLAND — BBC, **17830** at 2000 with "Newshour." (Jeffery, NY)

AZERBAIJAN — Azerbaijani Radio, **15238** variable at 1725 with discussion in probable Azeri. Similar programming on another date monitored at 1703 on **15244**. (Ziegner, MA)

AUSTRALIA — Radio Australia, **17750** monitored at 0604 with world news. (Foss, AK)

AUSTRIA — Radio Austria Int'l, **9655** in GG

at 0046, **13750** at 0150 and **15410** in GG at 0125. (Perron, MD)

BELGIUM — Radio Vlaanderen, **15545** at 1230 with EE to NA. Some bleed from Gollos Rossii on 15550 with strong signal to Asia. (Silvi, OH)

BULGARIA — Radio Bulgaria, **9485** at 0220 with program about Bulgarian women in music. (Perron, MD) **11720** at 0200. Radio Bulgaria offers a way to obtain one of three different certificates from them. They will send info on the requirements if you write and ask. (Lindley, ME) (P.O. Box 900, 1000 Sofia, Bulgaria. Probably wise to make it attention English language service — GLD)

CANADA — Radio Canada Int'l, **5960** at 0200 with IS, announcements, news in Japanese? (Wilden, IN) **9535** in SS at 0046. **17820** in RR at 1639. (Perron, MD) BBC World Service, **9515** at 1257 with sports, "Newshour." (Jeffery, NY)

CHILE — Voz Cristiana, **17680** at 1625 with contemporary Christian music. // **21549.95** (good), and **21500** (weak). (Alexander, PA) **21550** at 1430 with Christian music in SS and EE. (Provencher, ME)

CHINA — China Radio Int'l, **12050** at 1120 in Indonesian. Request for letters. (Ziegner, ME) **15600** at 1934 in CC. (Perron, MD)

CONGO (Democratic Republic of) — Radio Nationale Congolaise, presumed, **15343** monitored at 2024 in FF with continuous music, talk by man and woman. (Jeffery, NY)

COSTA RICA — RFPI, **6975** at 0130. (Jeffery, NY) 0351. (Wilden, IN) **15050** at 0157. (Jeffery, NY) 0136. Also **21460** at 1930. (Perron, MD)

Abbreviations Used in Listening Post

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



Deutsche Welle sent this QSL to Ed Lindley for reception of the Sines, Portugal, site in 1997.

CUBA — Radio Havana Cuba, **13605** at 0205 with "Mailbox." (Perron, MD)

DOMINICAN REPUBLIC — Radio Cima, **4960.11** at 0025 with SS announcements, salsas, merengues, IDs. (Alexander, PA) Cristal International. **5011.8V**, 2345 to 0100 close with continuous Sergio Mendes music to 0034, several Auturo Sandoval songs. ID at 0058, off with national anthem. (Alexander, PA)

ECUADOR — Radio Federacion, **4960** at 0224 in SS with music. ID. (Jeffery, NY) HCJB, **9745** at 0532 with instrumental Christian music. (Foss, AK)

EGYPT — Radio Cairo, **9475** monitored at 0217 in AA and 12050 at 0205 in AA. (Perron, MD)

ENGLAND — BBC, **9740** at 1733 with "Jolly Good Show" program. (Foss, AK)

EQUATORIAL GUINEA — Radio Africa, **15184.75** monitored at 2240 to 2355 sign-off. U.S. religious programming. Off with Cupertino, California address and anthem. Not heard on 5005. (Alexander, PA)

FRANCE — Radio France Int'l, **5920** at 0233 in FF. 13700 in PP at 0151. **17620** at 1646 and **17680** at 1443. (Perron, MD)

GERMANY — Deutsche Welle, **6040** at 0120 in EE and **15410** at 0103 in GG. (Wilden, IN) **7285** in Bengali at 0149. Also **9640** in EE at 0110 and **9730** in GG at 0125; **15275** in GG at 0128, **17765** at 1641 in GG. Also **17730** and **17765**. (Perron, MD)

GREECE — Voice of Greece, **7450** at 0130 in GG/EE. (Provencher, ME) 0200. Also **9375** and **9420**. (Perron, MD)

GUATEMALA — Radio Tezulutlan, **4837** at 0023 in SS with mostly music. (Ziegner, MA)

GUINEA — Radio Conakry, **7125** at 2305 to 0000 close. Local pops, African folk music, FF announcements, off with national anthem. (Alexander, PA)

HUNGARY — Radio Budapest, **9580** at 0105. (Perron, MD)

IRAN — Voice of the Islamic Republic of Iran, **9022/9685** from 0030 sign-on to 0130

off. Some days 9022 is better, some days 9685 is. (Silvi, OH)

IRAQ — Radio Iraq Int'l, **11785** at 0303 starting EE broadcast with ID, schedule, news. Has poor, muffled audio again, with strong hum and unidentified co-channel QRM carrying Koran. (Alexander, PA) 0315-0358 with commentary on UN sanctions, off with presumed anthem at 0358. (Ossman, NY)

ISRAEL — Kol Israel, **15650** in FF at 1934. (Perron, MD)

ITALY — RAI, **11800** heard at 0147 in II. (Perron, MD)

JAPAN — Radio Japan, **5960** via Canada in JJ at 0238. (Perron, MD) **11760** at 0618 in RR and **17810** at 0610 with Japanese and Asian news in EE. (Foss, AK)

JORDAN — Radio Jordan, **15435** in AA at 0121. (Perron, MD)

KAZAKHSTAN — Kazak Radio, **11825** at 1740 to 1800 in Kazak. Discussion program. (Ziegner, MA)

KUWAIT — Radio Kuwait, **9855** and **15505** in AA at 2112. (Perron, MD)

LIBYA — Radio Jamahiriya, **15235** at 1437 to 1645 in AA. Very angry man giving a

speech. (Ziegner, MA) 0109 in AA. Also **15415** in AA. (Perron, MD)

LITHUANIA — Radio Vilnius, **9855** monitored at 0035 with news and features. (Ossman, NY)

MONGOLIA — Voice of Mongolia, **12085** at 1110 to 1140 in Mongolian. Into CC at 1141. (Ziegner, MA)

MOROCCO — Radio Medi Un, **9575** at 1912 in AA and FF with music and news. (Ziegner, MA) RTV Marocaine, **11920** in AA at 0111. (Perron, MD) Voice of America relay, **15445** at 2000 with "Africa World Tonight." (Jeffery, NY)

NEPAL — Radio Nepal, **5005.03** at 0011 sign on to past 0025. Tuned in to open carrier at 0008, on at 0011 with IS of local music. Chimes at 0014, talk by woman in unidentified language at 0015 and local music. **Parallel to 7165.24** — both at fair level and in the clear, but barely audible by 0025. Only a weak heterodyne audible on both frequencies when checked the next night. (Alexander, PA) (Nice! No way most of us will ever hear Nepal at that hour. — GLD.)

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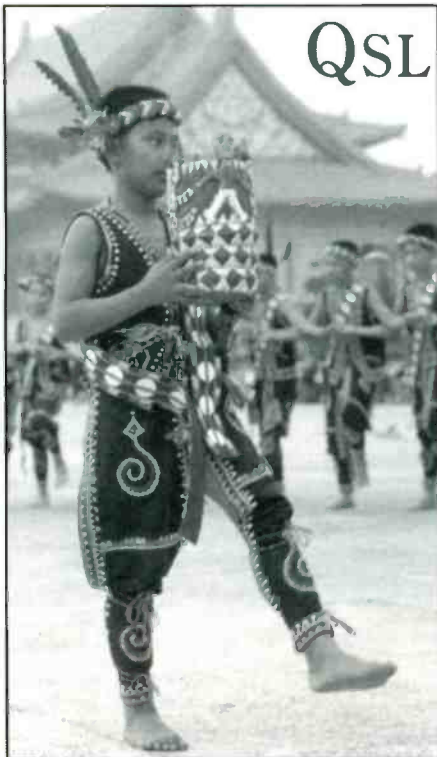
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Radio Taipei International QSLed Ed Lindley's July/98 reception via WYFR on 5950 with this full color card.

6020 at 0130 with "Sincerely Yours" and "Sounds Interesting." (Provencher, ME)
NETHERLANDS ANTILLES — Radio Netherlands via Bonaire, **15315** in SS at 0126. (Perron, MD) **17605** at 1930 with ID, news, weather, "Sincerely Yours." (Jeffery, NY)
NEW ZEALAND — Radio New Zealand Int'l. **17675** at 0112 with "Cadenza." (Jeffery, NY) **0455** with big band music. (Foss, AK)
NORTH KOREA — Korean People's Broadcasting Station, **11680** at 0623 with woman singing. (Foss, AK)
NORWAY — Radio Norway Int'l, **11635** at 2200 with Sunday EE program. (No more! GLD) **15235** at 1500 in NN with news. (Ziegner, MA) **13805** at 0146 in NN. (Perron, MD)
PERU — Radio La Inmaculada, (tentative) **5305** at 0200 to 0235 sign-off. SS romantic ballads, little talk. Off with closing announcements and national anthem. (Alexander, PA) Radio Peru, San Ignacio, **537.23** at 0200 to 0241 sign off. Peruvian folk music. SS announcements, IDs. Off with anthem. (Alexander, PA) Radio Ilucan, **5678** at 0145 to 0245 sign-off. SS talk, Peruvian folk music, commercials, and jingles. Closing announcements and ID at 0244. No anthem. (Alexander, PA) Radio La Voz de las Huarinas (presumed), **7003.38**. 0140 to 0239 with SS talk, Peruvian folk music. Off abruptly at 0239. CW QRM. (Alexander, PA) Radio Cristal (tentative), **7745.9** at 0230 to 0240. Peruvian folk music, man and woman announcers. Quick announcement by woman at 0240 and off air. (Alexander, PA)



This Radio Taipei Int'l QSL shows the foreign language staff. (Thanks Ed Lindley)

PHILIPPINES — Far East Broadcasting Company, **9405** at 0210 in unidentified language. to India. (Perron, MD)
POLAND — Polish Radio, **9525** in GG at 0040. (Perron, MD)
QATAR — Qatar Broadcasting Service, **11785** in AA with Koran monitored at 2121. (Perron, MD)
ROMANIA — Radio Romania Int'l, **9510** monitored at 0037 in RR. Also **9570**. (Perron, MD)
RUSSIA — Voice of Russia, **7180** at 0200 with EE to North America. Also **9665** at 0120.
SLOVAKIA — Slovak radio, **7345** in Slovak at 0138. Also **9485** at 0036. (Perron, MD)
SOUTH AFRICA — Channel Africa, **9685** at monitored 0120 with news. (Perron, MD) **15240** at 1600 to 1630 with news and sports at 1625; into FF at 1630. (Ossman, NY) **1638** to 1830 in PP and EE. (Ziegner, MA)
SPAIN — Radio Exterior de Espana, **11815** at 2330 with classical music and talk in SS. (Wilden, IN) (This is via Costa Rica. GLD) **1640** in SS on **17715** and **17805**. (Perron, MD)
SWEDEN — Radio Sweden, **9495** in Swedish at 0225, into EE at 0230. (Perron, MD) **15238** at 1423 in Swedish. (Ziegner, MA)
SWITZERLAND — Swiss Radio Int'l. **9885** at 0110 with news and current events. (Lindley, ME) **0405** with news. (Wilden, IN)
SYRIA — Radio Damascus, **12085** and **13610** at 2105 in EE. (Perron, MD)
TAHITI — RFO/Radio Tahiti, **15169** monitored at 0223 in FF with music, news, ID. (Jeffery, NY)
TAIWAN — Radio Taipei Int'l, **7130** at 0200 in CC. Also via WYFR on 5950 at 0237 in CC, also **15440** at 0130 in CC. // **15215**. (Perron, MD) **5950** at 0200. They are asking for monitors in the U.S. and would like to start a fan club in the U.S. (Lindley, ME)
THAILAND — Radio Thailand, **15395.0055**

to 0100. Man with talk on Commonwealth games. (Ossman, NY)

TURKEY — Voice of Turkey, **9445** and **9460** at 0211 in TT. Also **11885** in TT at 0141. (Perron, MD)

UKRAINE — Radio Ukraine Int'l, **12040** at 0300 to 0330 plus with ID, news, program of local music. // **9550** (both good) and **7410** (weak). (Alexander, PA)

UNITED ARAB EMIRATES — UAE Radio, Dubai, **15395** at 1533 in AA with Middle eastern music. (Jeffery, NY) **1940** in AA. (Perron, MD)

UNITED STATES — WBCQ, **7415** at 0000 first day broadcast. Said the transmitter is a Harris SW50 mediumwave converted to SW and is Pulse Duration Modulation instead of plate or linear type. Antenna is a "hybrid beam-log periodic at 60 feet above local elevation. Off at 0312, to return with new program at 0400. Gave their Website as <the planet.wbcq.net> (Silvi, OH) AFRTS, **12689**
USB at 0159 with baseball. (Jeffery, NY)

VATICAN CITY — Vatican Radio, **9605** in SS at 0140. (Perron, MD)

VENEZUELA — Ecos del Torbes, **4980** at 0234 in SS. (Jeffery, NY)

That cleans out the file for this time. A roaring round of applause, please, to the good people who supported the cause this month: Brian Alexander, Mechanicsburg, PA; Ronald A. Perron, Glen Burnie, MD; Tricia Ziegner, Westford, MA; Dave Jeffery, Niagara falls, NY; Marty Foss, Talkeetna, AK; Susan J. Wilden, Indianapolis, IN; Lee Silvi, Mentor, OH; Edouard S. Provencher, Biddeford, ME; Ed Lindley, Biddeford, ME and Bob Ossman, Ellicottville, NY. Thanks to each one of you!

Until next month, good listening! ■

Communications Confidential



YOUR GUIDE TO SHORTWAVE "UTILITY" STATIONS

Canada's Military Aeronautical Communications System — MACS

First, as we jump into a new year, I want to pass on to readers a new direct address to send logs and info. Please use: P.O. Box 4450, Youngstown, Ohio 44515, USA in care of myself. If a personal reply is desired, an SASE is always appreciated. Of course the E-mail address in the column header works as well.

The system in use by Canadian Forces to support air assets is known as MACS for Military Aeronautical Communications System. Listed frequencies are 3047 (Edmonton/Trenton only), 3092, 4703, 5715, 6694, 6706, 6745 (Edmonton/Trenton only), 6754, 8989 (Edmonton/Trenton only), 9007, 11232, 11265 (Edmonton/Trenton only), 11271 (Edmonton/Trenton only), 13257, 15031, 15034 (weather VOLMET only) 17994, 18012, and 23250 kHz (Trenton only) in USB mode. Trenton broadcasts weather for selected Canadian airfields on 15034 kHz between 1000 and 0000 UTC and on 6754 between 2300 and 1100 UTC. MAC Communications Stations are CHR, Trenton Military, Ontario; CJX, St. Johns Military, Newfoundland; and VXA, Edmonton Military, Alberta. A MACS station had been located in Lahr, Germany (callsign VEG), but was closed many years ago. Unfortunately, it still shows up in some lists circulated and in some dated reference manuals. Stations at Halifax Military, Nova Scotia (CFH), and Vancouver Military, British Columbia (CKN), support other Canadian Forces requirements, including Search and Rescue coordination for Halifax and Victoria Rescue Coordination Centers.

Initial contact is to be on 11232 and 9007 kHz when aircraft are located east of 90 degrees west and on 11271 and 8989 kHz when aircraft are west of 90 degrees west. The primary callsign heard is "CANFORCE," which is the equivalent of the U.S. "REACH" callsign. When flying a United Nations support mission the callsign "UN" is used. Communications heard are similar to what is heard on the U.S. GHFS system — aircraft making



Operator panel No. 1 at Grimeton. (Photo courtesy Jonny@SRS)

phone patches to obtain weather for destinations or to check in with their parent commands. Give it a shot and see what you hear.

Other News

On August 29, 1998, a transmission was made using the world's only working Alexanderson alternator at SAQ, Radio Station Grimeton, Sweden. The transmitter, developed by Ernst Alexanderson and built by General Electric in the U.S., was installed in Grimeton in 1924. On December 1, 1924, the traffic of radio station Grimeton started on 16.7 kHz with the callsign SAQ. The station was linked in a path to the receiving station in New York across the Atlantic. Of the approximately 20, 200-kilowatt Alexanderson transmitters which were built by General Electric and installed all over the world, only this one at Grimeton is left. The great part of Grimeton is that almost everything that was built in the 1920s is still there. Besides the transmitter, visitors can find well-preserved buildings, six giant towers comprising the antenna, and the little "radio village" which was formed around the station's location at Grimeton.

"Basement Dwellers" eagerly await this annual test transmission on ultra long-wave. Costas Krallis, SV1XV, received the test transmission this year at his location in Athens, Greece, with a good signal



The Alexander transmitter at Grimeton. Visit the Swedish DX Federation Website at <<http://www.sdx.org>> for additional photos.

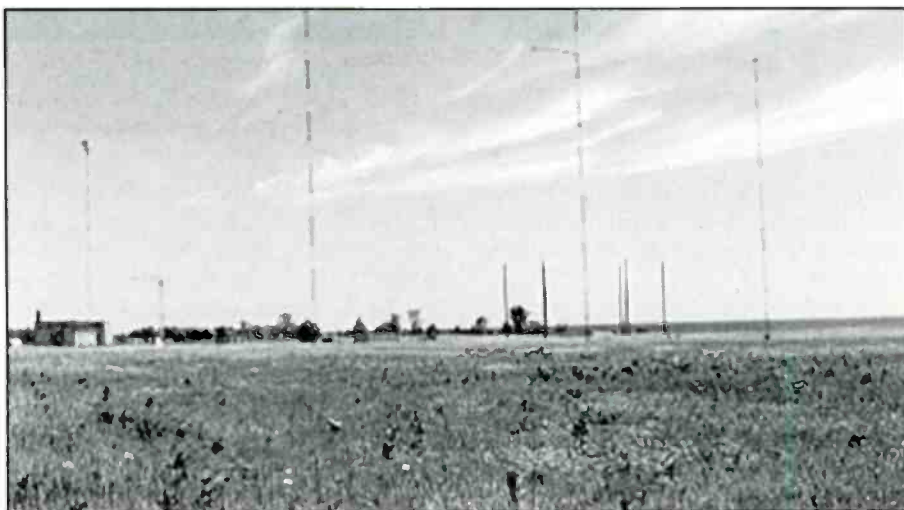
at 0930 to 0954. His setup consists of an ICOM IC-706 with a homemade VLF converter and a Diamond ham vertical for 40/20/15/10 meters. The transceiver was in CW mode with a 500-Hz crystal filter. Hopefully, next year I'll be able to give readers advance notice. If you make it to Sweden, the station is open for tours. For further information write: Radio Station Grimeton, Telia Mobile, Pl 3118, S-430 16 Rolfstorp, Sweden. Or on the Internet check their Webpage at: <<http://www.telemuseum.se/grimeton/grimeen.html>>.

On September 30, 1998, the *USS Independence (CV-62)* was decommissioned at Bremerton, Washington. She was the last of the Forrestal-class conventional carriers. So scratch callsign NNQN and MARS callsign NNN0COE off your lists. On the plus side, coastal mine hunter ship *USS Raven (MHC-61)* was commissioned September 5 by the U.S. Navy. *Raven* is the 11th ship of the 12 Osprey-class coastal mine hunters, which are named for birds of prey. Osprey class ships are the world's largest mine hunters to be constructed entirely of fiberglass and designed to survive the shock of underwater explosions. *Raven* joins the Atlantic Fleet and will be homeported in Ingleside, Texas.

Canada's newest warship, *HMCS Saskatoon*, left Halifax in August bound for her new home in Esquimalt, B.C., via the Panama Canal. *HMCS Saskatoon* was



Richard LaCroix took these photos of the MACS Trenton HF sites. The receive site seen here contains a large curtain array antenna, several log periodic antennas, and dipole antennas — not all visible in this picture.



MACS Trenton transmit site is located on the shores of Lake Ontario. MACS stations are typically located some distance away from the receive site.

scheduled to be commissioned in Victoria, B.C. on December 5, 1998. She is the 10th of 12 Kingston-class ships to be delivered to the Canadian Navy. The 970-ton ship will be the fifth of six Kingston-class vessels to join Maritime Forces Pacific and will be a Naval Reserve vessel.

Digital News

Reportedly, the French Military installation in Bangui, Central African Republic, was closed April 15, 1998. This was "RFFXI" on the French Forces nets. Closure would eliminate the link to Paris (circuit XZ1) and the respective return link (XX1). In early June, I logged RFFXI with a Controle de Voie transmission on **4466.7** at 0156 in ARQ-E3 192/284, but have seen no logs of RFFXI since.

Both Dave Wright, Texas, and Albert Hussein, Florida, have noted NOJ, USCG CommSta Kodiak, Alaska, up on 9302.7 kHz in G-TOR 100 baud 200 shift, calling various cutters. It's a rare mode, especially outside amateur radio circles.

John Doe, UK, has noted **FUG, French Navy, La Regine**, running 75 baud 7.5-bit Baudot test tapes on **8453.0 kHz and 17180 kHz** in 850 Hz shift. These 8 and 17 meg frequencies were, until recently, used by HWN, Houilles. In fact, of HWN's five original frequencies, only two are still HWN (at 150 baud), two are now FUG at 75 baud (8453 and 17180), and one (4295) is FUE at 75 baud. Here is the roundup of what John logged: FUE, Brest, 2789, 4295; FUF, Fort de France (*noted on QSL's as "Station Radio Pointe des Sables."* — Ed.) 8478.5 13031.2 16961.5 22537, miss-

ing 4232; FUG 8453 17180, missing 6867.5, 12741; FUJ, Noumea 8646 16957.8 (moved from 16957.6), missing 4271, 22461; FUM Papeete 8625 12664.5, missing 6462, 16959, 22463; FUO, Toulon, 2608.4, missing 4273, 6385, 12664.5, 17137; FUV Djibouti 8568 13042.5 16904.9 22447, missing 4313; FUX Le Port 8475.5 12691 16915, missing 4334, 6397; 6WW Dakar 12857 16951.5, missing 4304, 8536; HWN 6348, 12140; The permanently encrypted FUB, Paris, was also on its usual 2064, 8565, 12729.9 and 15969.4 with 50-baud encryption. John notes this station can only be identified during its time signal from 0850 to 0859 UTC. It's too soon to tell if the change is permanent or not.

Reader Mail

Dan Greenall in Ontario, Canada, has been hearing a new (at least to folks in North America) maritime marker on **8725.0 USB**: Beethoven's 9th Symphony "Ode to Joy" is repeated. In trying to track this marker down, we sent the call out over the WUN Club's listserv. Costas Krallis in Greece, Fabrizio Magrone in Italy, Alex Wellner and Robin Harwood, both in Australia, all became involved. They soon began logging the marker on other maritime frequencies. Eventually, it was noted on **6513, 8725, 8797, 13161, and 17341**. Only one station has those frequencies in common: HLS, Seoul Radio, South Korea. The marker was completely IDed within 32 hours!

Dan also suggests the use of the ITU's worldwide HF field-strength measurement campaign to test propagation. So far, regular transmissions are being provided by Australia and Norway. The transmitter in Norway is operated by the Norwegian Telecommunications Authority and Telenor Broadcasting. It is radio beacon LN2A at Sveio, Norway, which operates 24 hours a day using suppressed carrier SSB using the following schedule and frequencies: **14395 kHz** each hour at: H+00/20/40; **20945 kHz** at H+04/24/44; **5470 kHz** at H+08/28/48; **7870 kHz** at H+12/32/52; and **10407 kHz** at H+16/36/56 for four minutes at each scheduled time. The Norwegian Telecommunications Authority and Telenor Broadcasting are pleased to acknowledge reception reports of LN2A with a QSL card. The address is: Norwegian Telecommunications Authority (Att. AYO/TF), P.O. Box 447 Sentrum, N-0104 Oslo, Norway.

Radio Beacon VL8IPS is operated by the Australian IPS Radio and Space

Services, in conjunction with the Australian Department of Defense (Royal Australian Navy). VL8IPS is located at Humpty Doo near Darwin, Northern Territory, Australia, and also operates 24 hours a day. The mode and the format are the same as LN2A with this schedule: **5470 kHz** at H+00/20/40; **7870 kHz** at H+04/24/44; **10407** at H+08/28/ 48; **14395 kHz** at H+12/32/52; and **20945** at H+16/36/56. The address for the VL8IPS beacon is Attn: Beacon Support, IPS Radio and Space, P.O. Box 1386 Haymarket, NSW 1240 Australia. E-mail, <beacon@ips.gov.au> or visit their Website at <<http://www.ips.gov.au/beacon/>> or read about the ITU project at their Website location: <<http://www.itu.int/brsg/sg3/hf-campaign/index.html>>.

Speaking of the WUN Club, they have had to once again move their listserver. They are now on <qth.net>. WUN is an Internet-only utility station club. There are no dues. Just send an E-mail to: <major-domo@qth.net> and in the body type: subscribe WUN. There are a number of non-club listservers on <qth.net> also, more on those next month.

Alan Gale, UK, sends his monthly informative European SAR report. The

highlight for Alan was hearing a SAR Op which involved a Royal Navy ship whose callsign wasn't included in any of his lists. From reading accounts of the rescue, he later confirmed it was *HMS Ocean*, the new UK Helicopter Carrier, which is currently undergoing trials off the southwest of England. Details of the ship are: *HMS Ocean* (L-12), callsign GCOU. tactical Identifier heard during the SAR was Zero November Charlie (0NC). This particular operation involved the use of six different frequencies and kept Alan up until after 0400 (local!). I've been there before Alan — hi! The very next day there was yet another Atlantic SAR Op, this time to medevac a crewman from the UK submarine *HMS Superb*, which was also heard on HF with the callsign GQIK and the ident J6F.

Alan Gale also forwarded this news about a special broadcast. The Dutch maritime station PCH, Scheveningen Radio, founded December 19, 1904 is going to close service on December 31, 1998 at 1500 UTC. On the anniversary date of December 19, 1998, the personnel of the station will give a farewell party on the air. The Dutch government has agreed to use the coast station frequencies to make con-

Abbreviations Used For Intercepts

AM	Amplitude Modulation mode
BC	Broadcast
CW	Morse Code mode
EE	English
GG	German
ID	Identification/led/location
LSB	Lower Sideband mode
OM	Male operator
PP	Portuguese
SS	Spanish
t/c	Traffic
USB	Upper Sideband mode
w/	With
wx	Weather report/forecast
YL	Female operator
4F	4-figure coded groups (i.e. 5739)
5F	5-figure coded groups
5L	5-letter coded groups (i.e. IGRXJ)

tact with radio amateurs in their bands primarily for radio officers past and present to say goodbye.

Any licensed amateur station is invited to join the party and make a QSO on one of the last days of PCH. The schedule is: December 19 at 1700 UTC to December 20 at 0700 UTC. CW on one the following frequencies, depending on propagation conditions using the callsign Scheveningen radio, PCH (+/- for QRM): **3525 kHz; 7025 kHz; 14050 kHz; 18085 kHz; December 19 0800 UTC to**

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December 20th at 0800 UTC. There will also be stations on the air with callsign PA6PCH: SSB on **144.315 MHz**; SSB on **3670 kHz** and on the HF bands the club station of the Radio Club Kennemerland, PI4RCK, will be on air with the PCH call PA6PCH. For every amateur station making QSO with one of the farewell party stations there is a special QSL card. I assume this will be from the Kennemerland Radio Club, PI4RCK, but we'll try and get an exact address for SWLs and publish it in our next column.

Bob Roehrig, who maintains the schedule for The Counting Station numbers broadcast for the "Spooks" Internet mailing list, sent a copy of the most recent schedule for that station. See "The Counting Stations Schedule." Thanks Bob.

UTE Logging's SSB/CW/DIGITAL

24: Unid ASCII at 0306, could not decipher all. (BF)
206: GLS, Galveston, TX at 0253. (BF)
245: ILT, Albuquerque, NM at 0250. (BF)
260: AP, Denver, CO at 0248. (BF)
275: GUY, Guyman, OK at 0239. (BF)
281: UVA, Uvalde, TX at 0237. (BF)
290: AOP, Rock Springs, WY at 0236. (BF)
329: TAD, Trinidad, CO at 0238. (BF)
344: GNC, Seminole, TX at 0233. (BF)
359: SDR, Snyder, TX at 0232. (BF)
371: TVY, Tooele, UT at 0322. (BF)
394: ENZ, Nogales, AZ at 0244. (BF)
407: CO, Colorado Springs, CO at 0255. (BF)
414: SKX, Taos, NM at 0302. (BF)
415: HJM, Bonham, TX at 0250. (BF)
420: EF, McKinney, TX at 0303. (BF)
1869: GKZ, Humber Radio at 2133 in USB t/c list and nav wngs. (HOOD)
2396: Kinloss Rescue, G at 0240 in r/check w/Rescue Mike Uniform. (AG)
2524: Australian SAR net at 0716 in USB w/VKG, Sydney Water Police, wkg Southern Comfort, a 35-foot motor cruiser which had taken water when a wave broke over it, vs1 North of Broughton Is (NSW). The WESTPAC rescue helicopter on scene on Ch. 16 VHF. At 0803 Valiant, NSW police launch, adv Southern Comfort that they would be w/ him shortly, at 0815 Valiant arrives saying "you lead the way, mate." (SD)
2608.4: FUO, Toulon, F in 75/850 RTTY test tape "VVV de FUO." (JD) **2693:** CUL, Lisbon Radio at 2006 in USB w/t/c list after ann on 2182. (HOOD)
2789: FUE, Brest, F in 75/850 RTTY test tape "AA de FUE." (JD)
2825: M/T (Motor Tanker) Irving Arctic at 0230 in USB wkg CCG vs1 Montmorency (buoy tender) re light on Sable Island is malfunctioning. (RK)
3016: Rescue 12 (RAF Nimrod) at 2302 in USB wkg Shanwick. (AG)
3025: Cuban M8 spook at 1020 in CW w/5CGs also on 3926 same time. (AWH)

3092.5: Unid str rptng "QCT" over and over in CW at 1832. (TY)
3149: Kinloss Rescue, G, at 2346 in USB wkg Rescue 12 re tone still audible on this freq, adv to go back to 4484 and would get another freq up. Zero November Charlie (HMS Ocean) at 2357 in r/check w/Kinloss. QRM was heard from a 'numbers' station on 3150 w/YL repeating "Papa Charlie Delta" then Group 114 and 5L (Mossad?). (AG) (See next log — Ed.)
3388: Cuban YL/SS 5F msg in AM heard at 0100. (TS)
3698: Cuban V2/Atencion spook at 1110, OM/SS w/5F. (AWH)
3942: Rescue 12 at 0009 in USB w/rdo ck w/Kinloss. ONC at 0101 wkg Kinloss re Sitrep, Rescue 193 now has casualty on board. (AG)
4014: Stations RJC, XRU, YPA, and ONU at 2130 in USB w/chat, possible MARS net. (RP) (Yes, Navy or NAVMARCORMARS net, the "NNNO" part of c/s are often dropped during informal t/c. — Ed.)
4016: Cuban CW cut # stn at 0301. (TS)
4178: FNKL, Louis Evrard heard at 0647 in ARQ w/msg via HEB login 98311 LU EVRARD. (HOOD)
4211: GKE, Portishead Radio, G at 0709 in ARQ msg to GKFY: M/V Baltic Eider (a 13866 dwt ro-ro). (HOOD)
4295: FUE, Brest, F, in 75/850 RTTY test tape "AA de FUE." (JD)
4360: SYN2, Mossad, Israel, hrd in USB at 1845//6370. (TY)
4363: WOM, ATandT Miami FL at 2305 in USB w/automated High-Seas wx brdcast for Florida and Caribbean. (RP)
4372: Z25, X6C, others in net heard at 2345 in USB. (RK)
4383: WOM, ATandT Maritime Services FL, at 1101 in USB w/computerized voice sending traffic list. (SD)
4394.4: FOXTROT TANGO, USN Link-11 Coordination NCS at 0015 in USB wkg HOTEL, NOVEMBER, TANGO, other SLCS's w/link-11 coord t/c. (Ed.)
4416: WHITE PEAK 403 (NCS) in USB w/other White Peak stations (13, 71, 81, 401, 439, 801) from 2235 to 2300 w/comms cks, admin msgs and arranging weekend mission schedules. Referenced were Middle East, Adirondack and Headcap, Northeast Region Civil Air Patrol Net. (RP)
4426: VIT, Townsville Radio, AUS heard at 0805 in USB w/MARSAR msg 2433 re "Solo Spirit" w/lone survivor adrift 21-22S/158-53E at 0110, adv all vs1s within 100M radius to contact RCC Australia. (SD)
4460: Spook (M51?) in CW at 0315 "113" repeated, then "921 921 921 39 39 BT BT" into 5FGs, cut 0 = T. (AWH)
4466: WHITE PEAK 4 (Wing Commander) at 2233 in USB w/WP301, 401, 701, 801, 901, all IDed as Group Commanders. (RP)
4469: GEORGIA CAP 301, Net Control, in USB w/Georgia CAP 400, 401, 504, 506, and 507. Another day heard at 0123 Tennessee CAP 41 noted in net t/c w/ other Tennessee Wing CAP stations in Southeast Region Civil Air Patrol net. (RP)

4483: Burney Radio at 1020 in USB w/Tasmanian wx. (SD)
4484: Kinloss Rescue at 2135 in USB wkg Rescue 12 re Rescue 193's ETA on scene 2335, is to recover casualty and RTB ONC for re-fuel. Warship *Albany* in area conducting FM comms w/vessel Litteran. Kinloss at 2343 adv call on 3149 for r/check re QRM. QRM was from a Russian BC station on 4485. (AG)
4487: Dept of Conservation, Hokitika, New Zealand at 0705 in USB w/2 OMs talking about huts, goats, deer, adv would use HF rather than their FM radios for further comms. (SD)
4585: MIDDLE EAST 3 heard at 2204 in USB w/Kitty Hawk 16 for rdo cks. Another day at 2231, Maryland Command Staff w/Free State 1, 2, 3 and CAP Command Staff. Another day at 1140, Jefferson 16 w/Jefferson 26 and 47 (Virginia CAP), Middle East Region Civil Air Patrol Net. (RP)
4586: Dept of Conservation stns, New Zealand at 0405 in USB organizing a SAR, mentioned getting patient down to rescue helicopter or jet boat. First time heard any DOC comms here for nearly seven years. (IJ)
5038: FDY, French AF, Orleans, F at 1415 in RTTY 50/400 test tape. (JD)
5091: JSR2, Mossad, Israel, hrd in USB at 1530 // 7540. (TY)
5178: Backwards Music Station (XM) at 2003 in USB. (SD)
5260: Cuban CW at 1305, 1 stn audible wkg cross-band, doesn't sound like usual 5258 net. (AWH)
5335: ZERO ALPHA, New Zealand Army stn at 0830 in USB w/radio cks. (IJ)
5405: JMJ2, Tokyo Meteo at 1219 in FAX 120/576 w/chart. (DW)
5431.5: P7X in CW at 0044 w/5L msgs //5779.5. (TS)
5450: Royal Navy Yeovilton heard at 0108 in USB w/wx broadcast. (RP) North Korean/YL nbr stn hrd in AM at 1600. (TY)
5530: MIW2, Mossad, Israel, hrd in USB at 1815 //4780//6658. (TY)
5574: San Francisco (CEP-1 MWARA) at 0257 in USB wkg United 60 Heavy who had declared an emer on 13354 at 0249 due to loss of one engine, flt bound Honolulu/SFO and was 432 miles out. Thanks for the phone call Walter! (Ed.)
5601: Eiza Volmet, Argentina at 0515 in USB, OM/SS w/wx forecasts. (IJ)
5629: KPA2, Mossad, Israel, hrd in USB at 1615 //6745. (TY)
5643: Qantas 7 at 0744 in USB wkg Brisbane, adv he has data-link and req selcal check. (SD)
5680: Swallow 72 (Wessex helo) at 1614 in r/ck w/Kinloss Rescue, G. Culdrose Ops, Royal Navy, G at 2130 wkg Rescue 193. Zero November Charlie (ONC) at 2134 clg Culdrose Ops, no reply, then called GCOU, this is the new Royal Navy helicopter carrier HMS Ocean! St. Anthony Radio, CAN clg C-GBBX at 2151, Churchill Radio, CAN at 2214 wkg CW in FF. "Russian Man" numbers station w/now weekly "624 Noll" broadcast at 1800, off at 1804, Yarmouth Coast Guard, UK at 1021 w/test count, Rescue 11 (RAF Nimrod)

at 1011 wkg Stavanger Rescue re msg from Sabre 50, had dropped a sonabuoy at posn 5816N/0053.5E. Stavanger Rescue at 1725 clg Kinloss re two missing Germans had been recovered about 1/2 hour previously. (AG) Westpac Rescue, Auckland and ZK-FOP (Piper Chieftan) New Zealand at 0600, mentioned Cape Brett and Keri Keri, searching for the missing fishing boat Endeavour III. Had been missing for over a week. (IJ) All in USB. **5687:** ZKX, RNZAF Auckland, and Orion 4202 (P3) monitored at 0445 in USB w/pp re forced return to Auckland re low on fuel, was trying to locate an EPIRB which had been activated, req adv MSA (Maritime Safety Authority) and SAR. (IJ) **5690:** Coast Guard 1712 in USB w/pp "Clearwater Air". (AG) **5696:** Rescue 1715 wkg CAMSLANT Chesapeake in USB at 0142 ref an unlit vsl that wasn't responding to calls on VHF Ch. 16. Vsl turned out to be a relay tower for military comms. (TS) **5717:** Rescue 314 at 0202 in USB wkg Halifax Search, CAN, is circling vsl Bergina. At 0237 Rescue 311 adv M/V Bergina in visual contact w/distressed vsl. Rescue 311 at 0250 in r/ck w/Rescue 314. (AG) **5820:** YHF, Mossad, Israel, hrd in USB at 1600 //7918//10648.(TY) **6200:** A3A, Nuku'Alofa Radio, Tonga at 0540 in USB w/simplex phone call for a unid vsl. (IJ) **6215:** A3A, Nuku'Alofa Radio, Tonga at 0535 in USB wkg unid vsl re phone call. (IJ)

6266: NMN, USCG CAMSLANT Chesapeake, VA at 0520 w/ARQ ready signal, why here? (AWH) (*Infrequently found in the ship sitor bands supporting USCGC Eagle WIX-327, this masted training barque apparently needs sitor support when at sea — Ed.*) **6271:** 7TJC, M/V Mourad Didouche at 0714 in ARQ msg for pilots via OST (a 83228 dwt LPG carrier) login 58103 MOUR. (HOOD) **6348:** HWN, Houilles, F in 150/850 RTTY test tape "FAAA de HWN." (JD) **6393.5:** UDK2, Murmansk Radio, RUS at 0732 in RTTY 50/170 w/crew TGs to UCSA: Udarnik (MI-1411). (HOOD) **6586:** TU-TGF, Air Inter Ivoire, at 2100 in USB wkg Abidjan. (IB) **6616:** Unusual Beijing Volmet, China, w/ flying wx info in USB heard at 0955 for more than 120 mins. //3455. not hrd usual 5673, 8849 and 13285 kHz. Malfunctioning? (TY) **6640:** "New York" LDOC in USB wkg "Britannia 427" w/pp at 0154. (TS) **6658:** MIW2, Mossad, Israel, hrd in USB at 2015 //5530.(TY) **6694:** November Quebec 67 (a/c) at 0018 in USB w/Halifax Military w/pp w/MOC (Ministry of Commerce), info for relay to Greenwood. (RP) **6727:** Japanese Military station and BONNY 40 at 0905 in USB w/Op's normal msgs. (IJ) **6730:** SAM 375 and SAM 695 at 2024 in USB w/Andrews w/pp SAM Command Post. (RP) **6765:** HSW, Bangkok Meteo, Thailand at 1025 in USB. YL in Thai w/wx forecasts. (IJ)

6786: Spanish Lady (V2) at 0622 in AM, numbers stn in progress, also same at 0804. (SD) **6826:** Cuban YL/SS in AM heard at 0307 w/5F msg. (TS) **6840:** EZI, Mossad, Israel, hrd in USB at 1600 //9130.(TY) **6845:** VJJ/VJN RFDS channel at 0613 in USB w/VME93 Mobile at Coff's Harbour (NSW) wkg Charlie in Cunnamulla (Qld) and Faye VKV53 chatting about radio. (SD) **6908:** Unid stn YTDL Rptng "V 81DZ DE YTDL" over and over in CW at 0940. On another day this stn hrd on 6918 kHz at same time. (TY) **7529:** Russian Man (S7) at 0500 in AM, numbers stn w/call-up 549. (SD) **7612:** ZERO ALPHA, 20, 21, 23, 23A, 30, 60, and 171 Australian Army Relief Op's net, Papua New Guinea at 0810 in USB w/rdo cks, logistical and medical related msgs. mentioned about 3 hr beach patrols and consulting the villagers. (IJ) **7633.5:** AFA1EN, unid AF MARS, wkg "Havoc 90" w/pp's in USB at 0223. Havoc 90 is a C130 inbound to Dyess AFB, TX. (TS) **7726:** Spanish Lady (V2) at 0547 in AM, numbers stn in progress. (SD) **7821:** Unid CW hack station 0100-0215 on, repeating once a minute w/ "BT99? 0603?9?9?9??" where 0603 is a group which increments by one ea time. cut 0 = T. (AWH) **7831:** BLACK BODY clg NIGHTWATCH 01 at 1147 in USB, IDed frequency as Z170. (RP) **7890:** ZME, Joint Dept Of Conservation/

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Meteo station Raoul Isl. the Kermadecs, New Zealand at 2210 in USB w/2 YLs organizing things for the RNZAF airdrop of supplies to Island. (IJ)

7897: RFLI, French Forces, Fort de France at 0805 in ARQ-E3 96/360. Ckt LIH to Papeete w/several CdV msgs noted. (DW)

7918: Mossad (E10) at 0504 in USB, numbers stn in progress. (SD)

7965.1: 6PQ wkg "TRIDENT 47" in USB at 0413. (TS)

8000: JFY, Sanwa, Japan at 1205 in AM w/time signals. (TS)

8122: BAF, Beijing Meteo at 0939 in FAX 120/576 w/weak chart. (DW)

8140: BMF, Taipei Meteo at 1900 in FAX 120/576 wx chart. (JD)

8156: Rescue II monitored at 1136 in USB clg J6F, no reply. Kinloss Rescue at 1137 clg J6F. GQIK at 1212 clg Kinloss for r/check. GQIK/JF6 is HMS Superb, a Swiftsure class submarine. (AG)

8160: Russian Man (E17) Numbers Stn at 0230 in AM w/EE 5FGs (x2). QRT at 0334 w/00000. (DW) VNN737, Lake MacQuarrie Communications (Lakecom), NSW Australia at 1000 in USB w/chat. Had moved from their 6910 freq checking comms and travel plans. Appears to operate like an alternative 4x4 net, hiring out HF radios etc. Other freqs used are 3760, 5105, 11487 and 14662. (IJ)

8176: VIM, Melbourne Radio, AUS at 0953 in USB w/tfc list and wx. (DW)

8240: M/V Sovereign at 0120 in USB wkg Group Mobile (on 8764) for comms guard after vessels tow, the 470 foot M/V Golden Star, broke loose during Hurricane Georges. Tow was drifting towards an oil platform in the Gulf of Mexico, later was able to take it back under tow. (Ed.)

8279: UGSF, TKH Krasny Aksay at 0715 in USB w/pp to Moscow via OHG. (HOOD)

8300: New Star Broadcasting Numbers Stn at 1202 in AM. YL/CC w/music and voice. (DW) Same at 1230. (TS)

8341: 7THX, M/V Bechar at 0720 in CW w/ETA for Koper via 7TF. (HOOD)

8366: UUIE, TKH Viana Do Castelo heard at 0715 in CW clg USO5 (3095 dwt gen cargo vs). (HOOD)

8386.5: 9VDS, M/T Maersk Nautilus at 2009 in ARQ w/msg to 9VG, login 01843 9VDS (255028 dwt tanker). (HOOD)

8405: EOYW, RTMS Arabat at 0741 in RTTY 50/170 w/crew TGs to URK9 (as "Kerch Radiosentr Rybprona"). (HOOD)

8419.5: PPR, Rio Radio, Brazil at 0207 w/sitor free signal, CW ID. (MS)

8435.5: OST, Ostend Radio, Belgium at 0231 w/sitor free signal, CW ID. (MS)

8453: FUG, French Navy, La Regine in 75/850 RTTY test tape "FAAA de FUG." (JD)

8465: KPA2, Mossad, Israel, hrd in USB at 1515 //6745. (TY)

8467.5: JJC, Tokyo Radio at 0943 in FAX 60/576 w/plain text nx. (DW)

8473: PKE, Amboina Radio, Indonesia at 0948 in CW w/CQ mkr. (DW)

8478.5: FUF, French Forces, Fort de France at

The Counting Stations Schedule

Format: 10 minutes of repeating message no. X3 followed by 1-10 count followed by 10 beep tones followed by count X2 followed by the message in 3/2 FIGS format. Message repeated once. Mode is USB usually with carrier (Mode H3E).

COUNTING STATIONS BY TIME/FREQ

UTC	KHZ	M	T	W	T	F	S	S	LANG	NOTES
0100	15478.0	X	X							SS//16050
0100	16050.0	X	X							SS//15478
0300	12300.5	X	X							SS//14421
0300	14421.0	X	X							SS//12300.5
0900	11580.0	X	X							EE//14655
0900	14448.0	X								EE//15822
0900	14655.0	X	X							EE//1580
0900	15822.0	X								EE//14448
1100	14432.0	X								EE
1100	16086.0	X	?							EE//10863?
1200	10223.0	X	X							EE//13518
1200	13518.0	X	X							EE//10223
1200	13906.0	X	X							EE//15732
1200	15732.0	X	X							EE//13906
1300	10529.0	X	X							EE//14739
1300	13518.0	X								EE//14739
1300	14739.0	X								EE//13518
1300	14739.0	X								EE//10529
1500	10597.0	X	X							EE//7600?
1700	10423.0	X								EE//12197
1700	12197.0	X								EE//10423
1700	13450.0	X	X	X	X					EE//14448
1700	13874.0	X	X							EE
1700	14448.0	X	X	X	X					EE//13450
1800	11072.0	X	X							EE//13444
1800	13444.0	X	X							EE//1072
1800	13450.0	X								EE//13450
1900	11491.0	X	X							EE//13450
1900	13450.0	X	X							EE//14448
1900	13450.0	X	X							EE//1491
1900	14448.0	X	X							EE//13450
2000	10423.0	X	X							EE//12197
2000	10527.0	X	X							EE//12197
2000	12197.0	X	X							EE//10423
2000	12197.0	X	X							EE//10527
2100	10263.0	X								EE//12150
2100	10583.0	X	?							EE//12175
2100	12150.0	X								EE//10263
2100	12175.0	X	?							EE//10583
2200	8125.0	X								EE//10423
2200	10423.0	X								EE//8125
2200	11440.0	X	X							EE//13988
2200	13988.0	X	X							EE//11440

0955 in RTTY 75/800 w/calltape. (DW)

8532: LZW42, Varna radio, Bulgaria at 0251 w/CW marker. (MS)

8580: RKLM, Arkhangelsk Radio tuned at 1223 in CW (to 4LY) QSX 2540/4183.5/6278.5. (HOOD)

8586: USO5, Izmail Radio tuned at 0640 in RTTY 50/170 w/msgs to UUEA: TKH Venedikt Andreyev and ENDA: TKH Vitya Novitskiy. (HOOD)

8602: CWA, Punta radio, Uruguay at 0305 w/CW marker. (MS)

8625: FUM, French Forces Papeete at 1038 in RTTY 75/800 w/calltape. (DW)

8641: MIW2, Mossad, Israel, hrd in USB at 1615 //6658. (TY)

8643: UFZ, Vladivostok Radio monitored at 1042 in RTTY 50/170 w/3SC ifc re Russian financial crisis and t/c to ships. Down w/NIL

DE UFZ SK . . ." At 1051 into call for UDYB: MV Sodruzhestvo 10.700 DWT Reefer (former UPQY), to answer on 8383.5. QRT at 1059. (DW)

8650: SPE51, Szczecin radio, Poland at 0311 w/CW marker. (MS)

8662: TAH, Istanbul Radio, Turkey, w/CQ mkr in CW at 1920. (TY)

8690: 6VA5, Dakar Radio at 2130 w/CW nav wng in FF. (HOOD)

8698: 7TF, Boufarik radio, Algeria at 0328 w/CW marker. (MS)

8737: Automated voice at 0026 in USB w/ann in FF, SS and EE "This is Cyprus Radio". (RP)

8867: Pacific-910 heard at 0550 in USB wkg Nandi. (IB)

8894: Gao Aero, MLI at 1644 in USB wkg Niamey, NGR. (IB)

8903: LAC-5074, Lockheed, heard at 2134 in

USB wkg Libreville, Reg: 5N-TNO. POT-9232. Polet Aviakompania at 2109 wkg Kisangani, reporting FL270, Reg: RA-82075 (AN-124). (IB)

8971: BRIGHT EYES and BOLD STRIKE at 0030 wkg BLUE STAR w/radar cks. (RK) FF-speaking a/c Corsair 942 at 0133 w/FF speaking ground stn re there will be no crew change upon landing. Later, Corsair 942 in EE thanking Blue Star for their cooperation. (RP) (*This is also a LDOC freq for Berne Radio, SWZ — Ed.*) At 0113 TRIDENT 760 req a BIRD DOG (HF-DF) via W6U. At 1231, TRIDENT 760 made a very long count from 100 down to zero, then exchanged ANDVT traffic w/W6U. At 1456 RED CLAW (?) 711 reporting ops-normal to FIDDLE (TSC-Comms at NAS Jacksonville). At 1216 5YA rdo-cking S4JG in the clear, then ANDVT, then back to analog voice. S4JG apparently had problems w/crypto. 5YA was Tactical Support Center, NAS Brunswick ME. (TT) Berne LDOC. SWZ at 0251, w/YL wkg unid a/c att pp, cud not find act #, also checked by name. At 0256 att to answer N202X. (Ed.) All in USB.

8989: CHR, Trenton Military. CAN wkg RES-CUE 333 at 0735 in USB w/pp to RCC w/Ops normal. (IJ)

8992: TEAL 01. WC-130 53rd Wx Recon Sqd at 0523 wkg THULE w/pp. TEAL 01 is enrt to Homestead, most likely to recce Hurricane Georges. (DW) Russian-language VOLMET at 0244. TEAL 33 (WC-130) at 0200 w/Andrews in pp w/Wx Channel and New York TV stn setting up interview times. Later QSY to 11175. (RP) All in USB.

9016: PIANOKEY at 0001 clg TRICYCLE. (DW) BLACK BODY trying to raise NIGHTWATCH 01 at 1145. (RP) ODDBALL AT 0759 wkg NIGHTWATCH on Z175, only caught stns signing off. (SD) All in USB.

9041: 5YE, Nairobi Metro tuned at 2030 in RTTY 100/850 "CQ de 5YE" and RYs. (JD)

9130: EZI, Mossad, Israel, hrd in USB at 1900 //11565. (TY)

9153: Spanish Lady (V2) at 0535 in AM, numbers stn in progress. (SD)

9180: Mexico, prob Navy at 2230 in USB 2 OM/SS w/QSO. Also CW on 9186, unid clg XCRV. (AWH)

9226: High Pitched Polytone (XPH) at 0600 in AM, tonal numbers stn w/null msg. (SD)

9302.7: NOJ, USCG CommSta Kodiak, Alaska at 0415 in GTOR 100/200 clg NAQD, NMEL, NBTM in succession. Connected to NAQD 0425, wkg crossband, return link not located, 0431 disconnected. (AWH) Same at 0224 in GTOR 100/200 and 300/200 wkg NBTM: USCGC Polar Star (WAGB-10). At 0601, NOJ clg NYCQ: USCGC Boutwell (WHEC-719), and NBTM: USCGC Polar Star (WAGB-10). At 0407 clg NAQD: USCGC Jarvis (WHEC-725), NYCQ: USCGC Boutwell (WHEC-719), NBTM: USCGC Polar Star (WAGB-10), NMEL: Unid USCGC. (DW)

9337: Russian Man (S7) at 0520 in AM w/call-up 973 973 973 1 id 168 111. (SD)

9376.7: RFHI, FF New Caledonia at 1420 in ARQ-E3 100/400, CdV RFHI. (AWH)

10066: Ankara Aeradio, Turkey, wkg various a/c in USB at 1500. (TY)

10204: SOFTCOOL at 0024 in USB on Z190 w/NIGHTWATCH01. Later switched to Z175 (9016). (RP)

10215: HZN46, Jeddah Meteo monitored at 0116 in RTTY 100/800 w/various types of wx tlc. (DW)

10352: Abnormal Mossad transmission hrd, VLB2, Mossad, Israel, rptng callsign over and over for more than 120 mins in AM at 1845 // 12747. (TY)

10426: High Pitched Polytone (XPH) at 0610 in AM, tonal numbers stn w/null msg. (SD)

10493: SWORDMAKER 01, Fl in USB wkg WGY912 at 2115. (AWH) (*I caught them at 1742 checking in w/WGY914, adv they were a USAF reserve unit in Tampa — Ed.*)

10536: CFH, Halifax Military, CAN in RTTY 75/850 w/WX at 2057. (TS)

10648: YHF, Mossad, Israel, hrd in AM at 1600 //5820//7918. (TY)

10712.5: FDY, FAF Orleans, France at 0435 in RTTY 50/425 w/RYRY, TEST, VOYEZ LE BRICK GEANT QUE JEXAMINE PRES DU GRAND WHARLF 1234567890 QWERTY. (IJ)

10780: At 1523 DRAGNET WHISKEY w/pp via CAPE RADIO. DRAGNET WHISKEY was briefing w/ROCKY 61 re controlling an air/air battle. BLUE Air would use 335.950, RED Air would use 388.950, w/flight lead being PINTO 21. Passed misc. modes and codes. DRAGNET WHISKEY would coordinate the CRYSTAL(?) MOA w/Houston Center on 295.70. ROCKY 61 passed coord for "Laredo," 27-28.7N99-25.0W, and that ROCKY 61 would be airborne at 1400 local and in the area by about 1415. (TT)

10929: Russian Man (S7) at 0540 in AM, numbers stn w/call-up 549. (SD)

11015: VLN, School of Distant Education, Cairns, QLD Australia at 2220 in USB OM re any inward/outward msgs and assembly coming up shortly, then went through the list of active freqs 5300, 5865, 6799, and 7357. (IJ)

11030: AXM34, Melbourne Meteo at 1231 in FAX 120/576 w/plain text. (DW)

11107: YL/EE in AM at 0122 w/5F grps. Signed down w/562 562 138 138 00000. At 0200 came back on clg 398 and repeated earlier msg. (TS)

11175: At 0145 "3604" wkg Andrews w/pp to Wright-Patterson CP. Switched to 8992, "3604" adv ETA 0445. At 0348 REACH 1189 wkg Ascension w/pp to KX68 Ops, Cape Canaveral. Unable to connect but req pp to Patrick AFB to relay to KX68. 1189 adv ETA 0545 to Cape. 15K pounds on board. 12 pax. (DG) SLATE 42 at 1735 wkg GHOST WALKER (NAS Whidbey Island, Wa) re ETA and cargo to off-load. (RK) NATO 11 (probable AWACS) at 1402 in USB w/Andrews w/pp to comm number in Germany. 11 has German accent, ID's as Boeing 707 and reports departure from Tinker AFB at 1318, ETA at ETNG of 2215. TEAL 02 at 0145 in USB w/Ascension w/pp w/Weather Channel, interview on conditions inside Hurricane Bonnie. Later, at 0249, pp w/Dr. Sheetz, Hurricane Center, Miami. (RP) At 0425, KEIKO 01 w/pp to Reykjavik Metro via Hickam Global. 01 req wx forecast for BIVM, then a 1030Z forecast for Keflavik. C-17A 96-0006, transporting Orca whale from Oregon to Iceland. At 0832 AAEE, USAV Gen. Brehon B. Somervell (LSV-3) w/pp to AAC2, Ft. Eustis, VA via Elmendorf, passed a standard SITREP to "Charlie 2." and ETA Ford Island, Hawaii. (TT) WARSHIP 47, probably USS Ticonderoga (CG-47) at 1926 clg "mainsail," Andrews answers, is not hrd. (Ed.) All in USB.

11181: RAIN 96 at 0115 in USB wkg STEEL JAW (?) w/ANDVT comms. (RK) (*STEEL JAW is an E-2C of VAW-122, NAS Norfolk, VA — Ed.*)

11205: Halifax Military heard at 1753 in USB w/2 Echo Delta and switching to 9010. (RP)

11232: SHUCK 97 (E-3B) in USB w/pp w/Sentry 3 reporting return to Tinker AFB due to 12 consoles being down. (RP) "Trenton Military" at 2109 wkg "Canforce 2707" w/WX for Jacksonville, FL. (TS) Both in USB.

11255: KINGFISH BRAVO (Christ-church) and Auckland Aeradio, New Zealand at 0515 in USB w/radio cks. First time heard the KINGFISH BRAVO callsign in conjunction w/U.S. DEEPFREEZE OPs. (IJ)

11271: HMNZS ENDEAVOUR at 0938 in USB clg Air Force Darwin advising RESCUE 251 ops normal and in contact w/survivor of Solo Spirit. (SD)

11300: UKS-2708, Avialux at 2053 wkg Nairobi, IL-76 reg. UR-UCC.

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- 11480:** Mexican Navy (presumed) heard at 1530 in USB w/C7S wkg RE, OM/SS, CW on freq also. (AWH)
- 11494:** SERVICE CENTER, U.S. Customs back-up DAICC, Oklahoma City, OK at 2023 in USB wkg unid a/c passing ETA. (Ed.)
- 11511:** Russia, unid REK4 monitored at 0415 w/FSK Morse "VVV RFUC DE REK4 QSA?" repeated, 500 Hz shift, very weak. (AWH) Same. (DW)
- 11565:** EZI, Mossad, Israel, hrd in USB at 1430 //13533. (TY)
- 12201:** Stockholm LDOC wkg a/c on USB (this freq not in any of my books). Mentioned 13342 and 17916 for later use. (JD)
- 12438:** PPSI, M/T Belatrix at 2143 in CW w/crew TG to Rio via unid stn. (HOOD)
- 12482.5:** EALZ, M/V Nenfara Uno at 0921 in ARQ w/msg via PCH, login 08874 NENU (5861 dwt gen cargo vs). (HOOD)
- 12561.5:** UAUD, BATM Marshal Krylov at 0724 in RTTY 50/170 admin to Murmansk from Km Zonin via UIW. (HOOD)
- 12669:** LOR, Argentine Navy, Puerto Belgrano monitored at 0046 in RTTY 75/170 w/SS t/c. (DW)
- 12747:** VLB2, Mossad, Israel, hrd in AM at 1645 //14750. (TY)
- 12857:** 6WW, French Navy, Dakar. SEN in RTTY 75/850 at 2142 w/ "VOYEZ LE BRICK" test tape. (TS)
- 12886.5:** WLO, Mobile Rdo in CW at 2147 w/telegrams to ships. (TS)
- 12965:** USO5, Izmail Radio at 0646 in CW w/t/c to ENDW: TKH Petya Kovalenko (ex UIKP). (HOOD)
- 13200:** Elmendorf w/Skyking msg and authenticator at 0238 in USB. (RP)
- 13206:** Rescue 11 heard at 1046 in USB wkg Kinloss Rescue, is searching for Tori Murden, missing U.S. lone female Atlantic rower, adv intends to vector the vsL "Independent Spirit" into posn. (AG)
- 13339:** Aeromexico LDOC monitored at 0111 in USB YL/SS wkg unid a/c w/airfield conditions. (DW)
- 13366:** Morse numbers stn (M12) at 0630 in USB w/call-up 957 957 957 000. (SD)
- 13525:** GYU, Royal Navy Gibraltar in two-channel Piccolo-6 at 0830 w/test tape on Ch 1 "de GYU," didn't give callsign of stn being called. (JD)
- 13533:** EZI, Mossad, Israel, hrd in USB at 1530 //11565. (TY)
- 13560:** BMB, Taipei Meteo at 1525 in CW w/ "CQ de BMB freq 3641/5909/8117/13560 kHz," wx in EE, also heard on 8117 but couldn't hear 3 or 5 MHz. (JD)
- 13665.3:** 6VU73, Dakar Meteo, Senegal at 2155 in RTTY 50/850 w/wx synopsis. (IJ)
- 13900:** BMB, Taipei Meteo at 0756 in FAX 120/576 w/moderate fading. (DW) Same at 1500 and 1900, active daily. (JD)
- 13953:** P6Z, MFA Paris at 1541 in FEC-A 192/357 broken signal, one msg header w/internal c/s: P3S (Unid), G8T (Belgrade), P8C (Beirut), J5W (Rabat), N2G (Unid) and several others garbled. (DW)
- 13960:** At 1247 MUH-5 (NCS) in USB rdo cking MUH-5A, MUH-5B, MUH-5C, and MUH-5D, req they all switch to Foxtrot-120 (channel) immediately. Military-style verbage, and Australian accents. (TT)
- 14283:** KP2BO, St Croix, at 2126 in USB w/Hurricane Georges amateur Health and Welfare net t/c. Usual good assortment of complete idiots among various hurricane t/c nets, disrupting t/c. (AWH)
- 14325:** Stations K0IND, KSSIV (Net control), PJ8DM, W4EHW (Hurricane Center), N4TIE, VE3PZ, W9YLB/C6A, VPSJM, and others at various times w/wx advisories for Hurricane Bonnie. (RP)
- 14340:** RGT77 monitored at 0945 in CW w/"RGT77 181 = DDDDD..." and 5LG's including Cyrillic letters. (JD)
- 14356:** GXQ, Royal Navy Forest Moor heard at 1400 in Piccolo-6 two channels wkg MKD/14852. (JD)
- 14401:** OLZ55, unid Czech Embassy stn monitored at 0500 in CW w/VVV DE OLZ55 then into PSK data. (IJ)
- 14750:** VLB2, Mossad, Israel, hrd in USB at 1445 //12747//17170. (TY)
- 14761.5:** NNN0MRQ in ARQ at 2220 passing MARSgrams to unid stn. (TS)
- 14817.5:** JPA, INTERPOL, Tokyo monitored at 0050 in ARQ w/weak but readable signal. References to Muscat, and msg to a majority of the large cities throughout the world app meant for relay. (DW) (*Rarely logged traffic anymore! — Ed.*)
- 14852:** MKD, RAF Akrotiri monitored at 1400 in Piccolo-6 two channels wkg GXQ/14356. Don't pay too much attention to the "RN" and "RAF" as all British HF military circuits for many years op by "Defence Communications Network" and carry traffic for any military user. (JD)
- 14931:** 8BY, French Intelligence, Saint Assise, France, sending "VW 8BY" followed by 3FG's separated by a slant bar" in CW at 1840 //7668//10248//12075. (TY)
- 15016:** CATBIRD (Aircraft of Commander, USN Europe) at 2226 in USB wkg Lajes w/pp Navy Operations arranging ground transport for VIP passengers. (RP)
- 15624:** Cherry Ripe (E4) at 2205 in USB, numbers stn w/msg 13553. (SD)
- 16077:** SHARES net monitored at 2109 in USB w/WUC54 wkg WUG3, WUG5, advised landline is up to PR/VI following Hurricane George. (AWH)
- 16098:** HBD20, MFA Berne Switzerland at 1000 in ARQ w/5Lgs. (IJ)
- 16501.7:** Unid stn at 1625 in ARQ very weak here, poss Egyptian embassy comms. (MS)
- 16637:** C6BJ4, M/V Janice Aung monitored at 1517 in CW crew msg to IAR (25502 dwt bulk-er). (HOOD)
- 16798:** UBAU, RTMKS Aleksandr Mironenko heard at 0846 in RTTY 50/170 admin from Km Gubarev to UDK2 from 20.45N 1720W and relaying for UCUE, RTMKS Kapitan Bogomolov from Km Popko. (HOOD)
- 16830:** SVT, Athens radio, Greece w/cw marker at 0357. (MS)
- 17065:** EAD3/EDZ6, Madrid radio, Spain at 1615 w/cw marker. (MS)
- 17066:** UAT, Moscow Radio, RUS at 1240 w/CW autokey cyrillic text, ended, then hand-keyed CQ DE UAT. (AWH)
- 17170:** VLB2, Mossad, Israel, hrd in USB at 1445 //12747//14750. (TY)
- 17441.6:** 5YE, Nairobi Meteo in RTTY 100/850 w/WX at 2246. (TS)
- 17499:** Cherry Ripe (E4) at 0001 in USB, numbers stn w/msg 13553 //22108. (SD)
- 17620:** HZN, Jeddah Meteo heard at 1810 in RTTY 850/100 //10215 kHz, seems to be permanent change from 17590 kHz, heard daily for over a week. (JD)
- 17994:** Unid Japanese Military monitored at 0045 in USB, WX in EE/JJ to a unid unit. Poss part of the Japanese Maritime Self Defence Force net. (IJ)
- 18012:** Station ZKX, RNZAF Auckland New Zealand monitored at 2255 in USB w/"listening, out." (IJ)
- 18018:** ARCHITECT at 1830 in USB w/ air-field color states. (RP)
- 18032.7:** CLP1 Cuba monitored at 1920 to 2007 on in RTTY 50/500 EE press re cigar production. (AWH)
- 18214:** FF Favieres, F monitored at 1225 in ARQ-E 184.5/400, t/c for Lebanon on ckt XXL. (AWH)
- 18391.5:** MFA Jakarta Indonesia at 0330 in RTTY 50/400 w/5Lg's. (IJ)
- 18888.5:** UGDG, TK Marshal Grechko at 1259 in ARQ msg to Kelvin Hughes, UK from Km Makyslin via UFN. (HOOD)
- 18940:** BDF, Shanghai Meteo, China at 0800 in FAX 120/576 w/WX Map. (IJ)
- 19201:** Mexican Navy, XBRE clg XCBF on CW 1356. (AWH)
- 19731.5:** PCW1, MFA The Hague at 1710 in CW/ARQ marker. (JD)
- 19884:** Cherry Ripe (E4) at 0100 in USB, numbers stn w/msg 41061 //21866. (SD)
- 20556.5:** "P6Z", MFA Paris at 1610 wkg "Y8L" (or "Y9L"?) in 192 bd FEC-A. (JD)
- 20946:** 8BY, France monitored at 1557 w/CW marker. (MS)
- 22381:** 9VG, Singapore Radio at 1328 w/ARQ msg to P3FA5: M/V Nirvana from Brave Maritime Co, Athens. (HOOD)
- 22391.5:** HPP, Intermar Radio, Panama at 2022 in ARQ w/selcals and callsigns. (DW)

This month's contributors: (AG) Alan Gale, UK; (AWH) Albert W. Hussein, FL; (BF) Bill Farley, NM; (DG) Dan Gillespie, MI; (DW) David C. Wright, TX; (HOOD) Robin Hood, UK; (IB) Ian Baxter, UK; (IJ) Ian Julian, New Zealand; (JD) John Doe, UK; (MS) Mike Scott, NJ; (RK) Rich Klingman, NY; (RP) Ron Perron, MD; (SD) Simon Denneen, Australia; (TS) Tom Severt, KS; (TT) Tim Tyler, MI; (TY) Takashi Yamaguchi, Japan; and (*Ed.*) ye editor in Ohio. Thanks to all. ■

Tuning In (from page 4)

the '90s, non-electronic verbal stalkers. Or in simple language, snoops. It probably does.

I'll admit it, I only listen to these discourteous loudmouths because I can't turn them off. It's not up to me to put earplugs in my ears, is it? I know, gentlemen don't read each others' mail (or E-mail), do they? Truthfully, I don't. I hope you don't either. It really doesn't matter to me what you're doing on the phone, with whom, or with your mail. But if you hand me a copy of a letter you got from, oh, let's say, the President, or Uncle Newt, I'd be tempted to read it. In public places what choice do we have? Believe me, I try real hard not to listen. Short of humming the National Anthem really loud or putting my fingers in my ears, it's mighty difficult not to "tune in." Cell users know this too. So maybe the Japanese have the right idea. Of course, you know the device from Medic, Inc. in Japan won't see the light of day here in the U.S., but I'd be a millionaire overnight if it did. Right away I'd always have one in my pocket — like that pocket sound amplifier my uncle once got from a TV ad.

“Apparently the not-so-cheap devices have a range of about 20 feet or so, are the size of a pack of cigarettes, and can even be hung on the wall.”

But perhaps the best idea to fix the inadvertent eavesdropping problem comes from a young waitress who was quoted in the article suggesting a special seating area for people who don't want to be bothered by cell phone calls. I wish I had thought of that idea! Don't tell anyone, because if that ever happens, Uncle Sam will have to commission a special study to determine the effects of all that RF bombarding the cell phone users in a sealed room, separate of other folks. I'm all for a quick study, but *not after-the-fact*. Now's the time — and perhaps with the help of the American Psychological Association — to figure out why otherwise normal people want us to hear their private conversations. While we're at it, as long as we taxpayers wouldn't have to foot the bill, it might be a good idea for our elected representatives to undergo a few minutes of intense Q&A with the head docs before, and after, each legislative session, and publish the results for everyone to see. ■

Pirate's Den (from page 47)

Lounge Lizard Radio, heard on **6955 USB** at 1318 with an anniversary program. (Silvi, OH)

WLIS, on **6955 USB** at 0022 with program dedicated to PJ Sparxx. Also heard at 2202. (Silvi, OH) **6955v AM** at 2225 with uncopied mailing address, various station interval signals. Off at 2232. (Taylor, PA)

Radio Eclipse, on **6955**, 2337 with program 20. Various tunes. Clinton comments. Providence, RI address. (Taylor, PA) 2335 with 20/20 program. (Silvi, OH)

Radio Barnyard, heard on **6955 USB** at 0248 with pirate "Captain Cow Patty" "broadcasting from high atop a heifer cow." Off at 0306 with no address given. (Taylor, PA)

WACK Radio (*not* WRCK radio), "Wack-it Radio" **6955 USB** at 0123. Gave 1-888-959-8177 toll-free number. Variety of music, offer of QSL bumper sticker, various skits. Off at 0307. Also heard at 0347 with hilarious skits and rap/rock. (Taylor, PA) 0119 to past 0140. (Silvi, OH)

Free Hope Experience, on **6955 USB** at 0317 with various rock numbers and non-rock oldies. Blue Ridge Summit address, noting to include three postage stamps. Heard again at 0514 with Grateful Dead and others. Major Spook was host. UFO excerpt. Gave call as "Foxtrot Hotel XX-ray." (Taylor, PA)

Radio Caliente, heard on **6955 USB** at 0133. (Silvi, OH)

WSRR, heard on **6955 USB** at 1510. (Silvi, OH)

Diana Is Dead Radio, on **6955 USB** at 2103 with long tape of Elton John's "England's Rose" and more. (Silvi, OH)

K-2000/African Report, **6955 USB** at 0317. Stoneham mailing address. Mentioned co-host Jon Barnard, Radio Azteca, various skits. Off at 0335. (Taylor, PA)

Recycling (or Cycling) Radio Net, heard on **6955 USB** at 0249 with talk. (Silvi, OH)

Blind Faith Radio, on **6955 USB** at 1635: "Raise a Little Hell," "Louie, Louie," others. (Silvi, OH)

Radio USA, heard on **6950** at 0011. (Silvi, OH)

Voice of Laryngitis, heard on **6955** at 2314 mentioning the QE2. Also **6956** at 1230 sign-off. Also at 1718. (Silvi, OH)

A grrrraaat set of logs, folks! Let's keep this train rollin.' Hey, station operators — send me a sample QSL and I'll try to include it in a future "Den" column. See you next month! ■

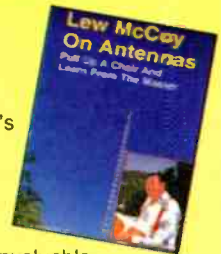
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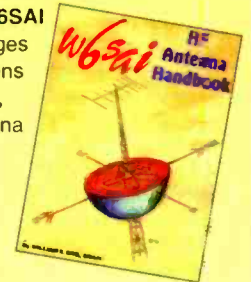


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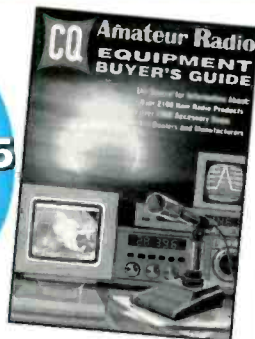
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Antique Radio Classified	24
Atlantic Ham Radio.....	67
Atomic Time, Inc.	31
Bill's CB & 2-Way Radio Service.....	46
C. Crane Company	Cov III
C & S Sales, Inc.	71
CQ Amateur Radio Calendars	14
CQ Holiday Special	53
CQ Videos	38
CRB Research	37,49
Commex Marketing	29
Communications Electronics, Inc.	33
Computer Aided Technologies.....	42,43
Cutting Edge Enterprises.....	27
DWM Communications	27
Delphi Internet	24
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Firestik Antenna Company	59
Grove Enterprises, Inc.....	51
Hollins Radio Data	19
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The Loose Connection

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RADIO COMMUNICATIONS HUMOR

Laundry Tubs, Punk Rock, And Burning Tongues

Today's lesson is about why it's usually not a good idea to put electricity through various parts of your body. Before I get into the lesson, which I'm sure will benefit all of you, I'd like to thank loyal reader (now E-mail friend) Mike Cathcart of Branson, Missouri for allowing me to share a bit of history from his family tree. Mike E-mailed me about a recent column, and it turns out we have quite a bit of lunacy in common, including radios, guitars, and chromatic harmonicas — all of which can pass current through one's body parts.

All my early experiences with putting electricity through my body involved radios. There were no transistor radios then. Radios glowed because they had tubes, and tubes, of course, wanted household current to heat their filaments. Taking those radios apart exposed the metal chassis, which was always "hot" with respect to a damp basement floor. You already know that I always worked in the basement in my socks (Mom: "I'll never get them clean!"), and set the radios either on the edge of the laundry tub or the top of my mom's washing machine — something that I believe the devil made me do. I would later be shocked by telephone wires, guitar amplifiers, and lamps (all in the basement), and once when I played my electric guitar and sang to the Clearasil crowd at a High School Prom. The prom was most memorable because I passed 110-volts through my upper lip during the second line of *What'd I Say*. Being a member of the "coarser" sex, I let fly with a phrase about a consecrated by-product through the offending microphone, which caused the band to stop playing and the crowd to stop dancing, and every face to turn slack-jawed toward me and stare as I held my lip. *Ognir and the Night People* never let me sing again.

My faithful companion Dave (the brains of our twosome) tells of his years at a television station where all the new videographers were handed a portable camera/recorder and a battery belt and told to "check the batteries" before leaving for a shoot. When the newbies asked how, they were always told, "Touch the terminals across your tongue — the same way you do with a 9-volt radio battery." Naturally, the batteries were always fully charged, and all but one of the newbies swore never to do that again. The one who repeated the test reported seeing "lots of pretty colors," and is presently in a rehab program at the Edison Home for Troubled Experimenters.

Dave's other story is so typical of the day-to-day troubleshooting problems we face — a seemingly simple problem which usually requires a meeting of our entire engineering department to solve, and then only after each of us calls everyone else a moron. Such was the case of the wireless microphone.

Dave was the production engineer during a remote "shoot," and the "talent" (the talking head) reported that the battery was going dead in his mike. Dave took the mike, touched the 9-volt battery across his tongue, and felt virtually no tingle. "Yup, it's dead," Dave said, as he went to the field kit for a fresh battery. There were none. There was no place for miles to buy one, but Dave remembered a 9-volt battery rattling about on the console of his car for a few weeks. "It's probably no good," he thought, "but I might as well try it before we make an hour's trip to get one."

"Aagh!" he said, pulling his tongue away and trying to wipe off the residual current. "Well *that* one's good!" he said, then snapped the battery into place.

"Here— try it now," he said, and handed the mike to the talent. It didn't work. "Whaddya mean?" Dave said, taking the mike again, opening it, and testing the battery across his tongue. "Aagh! Battery's fine. Make sure the switches are in the right positions — one in 'power', the other in 'on'."

The talent took the mike and tried again. Nothing. At this point, someone found another wireless mike in their car and the shoot went ahead. Dave took the bad mike back to the television station with him that afternoon.

"Know what it was?" Dave asked me while he related the story? "Acid," I said. "Yup." Dave and I had both been through so many absurd problems that when we hear hoofbeats, we now think first of zebras. The battery had begun to leak, and the "sting" that Dave thought he was getting from a fully charged battery was some really evil acid burning his tongue. "Felt just like current to me," he said.

I have saved the best for last. No prom scenes, no remote TV shoots — this one is just the way John Wayne would play it. Let's let Mike tell it:

Back in 1860, Robert William Cathcart, of indirect but certain relation to my family, was in service as a U.S. Army telegraph operator stationed at Fort Sumter when the Confederates launched the first attack of the Civil War.

The telegraph office was hit almost immediately and the lines that carried current to the sounder lay sparking in the rubble — alongside the remains of the sounder. Robert knew he had to get the incoming "intelligence" to the fort commander.

They did a fine job of destroying it — including the walls and roof, but they missed Robert and his dauntless spirit. With Cathcart tenacity, he untangled rubble and wires, and eventually found the pair that carried the incoming signals. He found pen and paper, held the two wires in his mouth, and felt the Continental Morse code burn his tongue. He got the latest incoming intelligence to the fort commander as if nothing had happened; sending his reply by touching two wires together was considerably less painless. Commended? Yes, and thereafter highly regarded by Union officers — but no Purple Heart for the burns in his tongue. Thanks to Union Soldier Robert William Cathcart for yet another example of living better — electrically.

Because there may be some normal Cathcarts who Mike's not aware of, I've left out such phrases as "lunacy," and "code-crazy," but I still thank him for a great story. Catch Mike at the Lawrence Welk Theater in Branson, Missouri. He'll be the musician with the scanner hooked to his belt.

Got something interesting to tell about communications? E-mail me at <wprice@mnsinc.com>, or snail-mail *c/o Popular Communications* at 25 Newbridge Road, Hicksville, NY 11801.

Editor's Note: Here's an idea. It's really *Bill's* idea, but it makes me feel good to claim it as my own. If your "story" or idea is used in Bill's "Loose Connection" column, we'll give you a one-year free gift subscription to *Pop'Comm*, or if you're a current subscriber, we'll extend your sub by one year. Not a bad deal for having a true funny story (or even making up something that we at *Pop'Comm* can be duped into believing is real!)

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