

POPULAR COMMUNICATIONS

DECEMBER 1998

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- **Alice Remembers How Radio 1212 Helped Win WWII**
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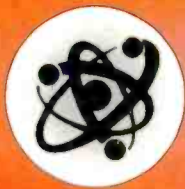
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POPULAR COMMUNICATIONS

DECEMBER 1998

VOLUME 17, NUMBER 4

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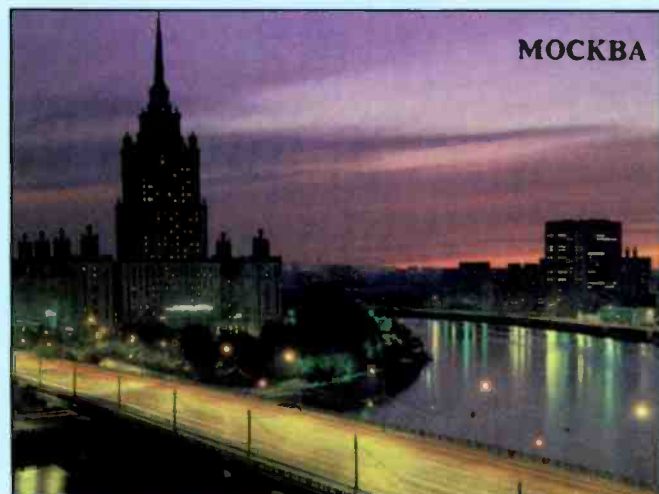
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ON THE COVER: Fred Engilis — "Snappy" — of the Southwood Crime Watch looks over a local street in Bradenton, Florida. Fred uses CB radio to stay in touch while on patrol. In this month's "CB Scene," Jock Elliott reviews some great new equipment just in time for the holidays. See "CB Scene" on page 44. (Photo by Larry Mulvehill)

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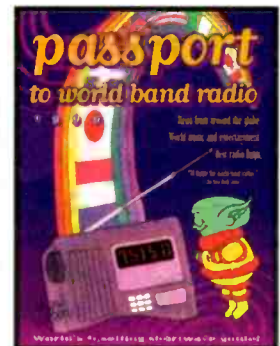
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Tuning In

AN EDITORIAL

BY HAROLD ORT, N2RLL, SSB-596

A Little End-Of-Year Self Analysis Never Hurt Anyone

It's almost time. Like an annual rite of passage, before we allow ourselves to move into the coming year, many of us will get this urge to sit quietly for a few moments and assess our lives. Like they say, "this is a good thing." Probably without this self-analysis, we'd all be return guests on the Jerry Springer show.

So, admittedly a bit early — actually a few months early — I got thinking about where I've gone right, and wrong during the past year. To be sure I've eaten too much — again *this* year. Now when you get over a certain age — for me it was about 35, that's *not* a good thing. I haven't figured out what it is about the radio hobby that apparently *makes* many folks gain weight. Maybe it's the fact that we sit there in our comfy chair waiting on a frequency for hours on end. Or perhaps it's because of those radio club meetings where they serve all those calorie-laden goodies. Let's face it, when was the last time your club served celery sticks, carrots, or broccoli? No human being can attend a meeting without some refreshments or cookies, right?

"I sometimes wonder what non-hams think about it all."

Computer nuts are tied to their machines all day, and *they* aren't usually chunky. Matter of fact, the ones I've talked with are usually thin and look a lot like my old high school English teacher. Come to think about it, the old coot's probably 95 and *still* thin! And look at the folks in other activities like needlepoint,

archery, fishing and gardening. They aren't pudgy. You've seen them all — men and women alike — even portrayed on TV. You know — the commercials for pain relief, headaches, vitamins, and breakfast bars all show these fit and trim folks you'll rarely see in real radio life.

Despite those TV commercials and magazine ads showing 85-year-old men running marathons, and muscular folks pressing 150 pounds at the local gym, you and I know the reality is that most 85-year-olds aren't running anywhere. The other reality for you and me is that most hams and radio enthusiasts don't even know where their local gym is unless it happens to be near the Dunkin Donuts or 7-Eleven.

So let's get real. *We're* what real-world Americana looks like! Well, maybe not *most* of Americana, but it sure sounds good. But despite the fact that there are more of them than us, I'm still going to dump a few pounds. I haven't figured out how, or just how many, but I'll know it's the right amount when my family and neighbors don't recognize me — from a block away!

You see, it wasn't *that* difficult to talk about something in *my* life that needs changing — a pretty good start on New Year's resolutions a whole month before the New Year!

Forget the fact that I'm a ham and love to talk, I still talk too much — even without a radio. Yep, dozens of folks will attest to that fact. Anyone care to stand up and admit they do too? C'mon, I know

(Continued on page 77)

 **Happy Holidays**
from the Staff of Pop'Comm



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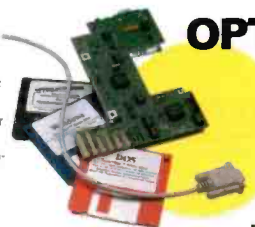
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CW Saves The Day — Again

Dear Editor:

There are No-Code licenses. People who prefer not to know code can still get a ham license and have fun. When the poop hits the fan and all comm is out, CW will be there to save the day. SWLing is fun, CB operating is fun, and being on the Internet is fun, but when the fun stops and the work begins, CW is there. No one says you have to learn code — don't. But there are many out there who can and do operate in that mode. I love this hobby, and it's big enough for all interests.

Newell Tracy, Texas

Dear Newell:

But like I've said before, when all comm is out, if my life depends on CW to get through 'cause all else is in ashes and dust, then it's probably time to send my wife some roses. I'd rather count on a newfangled data burst transmission to save the day when seconds count.

A Threat To Power?

Dear Editor:

One of the first things Hitler accomplished during his reign of terror . . . was to immediately take control of the airwaves. This included broadcasting, as well as all other radio services. While Congressman Markey is not Hitler, I wonder how he feels having a similar desire to control the airwaves because of his perception that perhaps it threatens his base of power.

Maybe the gun adage has something to it. Those that desire to break the law with

information they obtain over the radio will always have access to a radio to do it with, laws or not. The only thing this law could possibly do is preclude to those who are law abiding the access they want. It will never stop a criminal.

Gary Memory
U.S. Embassy, Paris, France

Government Garbage

Dear Editor:

Thanks for providing a space for us to speak our peace. I really think that the government has proposed a lot of garbage over the years, but this has got to be the worst in a long time. Why don't they just make the systems scramble their communications service? It's just another attempt to save us from ourselves.

Also, if Mr. Gingrich had thought of the cellular phone not as a phone, but as a radio — which it is — he wouldn't have run off at the mouth as much as he did. In any case, what the bill proposes is stupid and useless. What are they going to do, come around [to] our house and confiscate our scanners?

Bill Wright, KA9DSA

Dear Bill:

I hope it doesn't come to that, but with things changing so rapidly, would you be surprised if they did?

And Why Not?

Dear Editor:

Your comments, "CB, like our amateur service, has a lot going for it" are very much true. What is the most popular and readily available form of two-way communication on a large scale? CB radio. The installed base is huge. Affordable? Yes. You can buy a radio for as little as \$50. And we now even have weather channels built in. So what's the sour face all about? Like you say, a few bad apples.

Interference and coarse language throw some people into a headspin. I have heard some things on amateur radio I never dreamed I would hear an operator say. They couldn't be no-code techs! This

was on HF. What happened to the well-disciplined amateur service that the FCC and fellow amateur operators regulate? I always get a thrill out of reading letters in magazines from people who write in spreading hate and discontent about CB vs. ham, code vs. no code. Then throw in the FCC and ARRL. Stir everything up. The fact is CB does have some advantages. And yes I do have a CB right next to my 2-meter ham radio. And why not?

Michael Dull, Illinois

Pardon Me, Or Is It "Huh?"

Dear Editor:

Ge. You sure told it like it is in the October issue in your response to Raymond in Arizona. While I understand what he's saying up to a point, he confused me about the driving being "a privilege, not a right or grant." Then he says "Amateur licensing is a grant, not a privilege or right."

My friend has an amateur license hanging on his wall, and it says "Operator Privileges" at the bottom, then gives the license class. I know it's not anyone's "right" to get a driver's license or an amateur license. But exactly what is Raymond talking about?

John Fedlemeyer, Houston, Texas

Dear John:

It's Monday. I haven't had my morning donut and coffee yet, and a squirrel chewed my coax. Even so, I don't know what Raymond meant.

Jack Thanks The Gang!

Dear Editor:

I have read your magazine for years. I am a retired Radioman Chief Petty Officer of the United States Navy and look forward to each and every issue. I appreciate all the work that you and your fellow staff members put into this fantastic publication each month. On behalf of all the "Communication Nuts" out there, like myself, THANKS FOR A JOB WELL DONE.

Jack R. Cleavenger Jr., USN
RMC/RET, Fort Smith, Arkansas

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The BBC World Service: World-Class Coverage

Recognized As A News Authority, The BBC Leads The Way . . .

By Ian Poole, G3YWX

The sound of "lilibulero" across the radio waves is the unmistakable sound of the BBC World Service. Based at Bush House in the center of London, the station has built up a reputation over the years for reliable news reporting. In the 1991 Gulf War, people from both sides of the divide used it as their prime source of news about what was really happening.

Let's take an inside look at the station that boasts an audience in English of over 35 million, and currently broadcasts in 44 other languages. This makes it one of the

largest broadcasters on the international scene. Although it is funded by the British Foreign and Commonwealth Office, it is editorially free of the government, enabling it to fulfill one of its stated aims, to deliver objective information and reflect the values of a free and democratic society.

Early Beginnings

The story of the World Service began in 1922 with the formation of the BBC. At this time it was called the British

Broadcasting Company and it only broadcast programs intended for audiences within the United Kingdom. These services quickly grew and the status of the BBC changed, becoming the British Broadcasting Corporation on January 1, 1927.

The idea for international broadcasts from Britain was born out of the need to broadcast to the British Empire. Stations in the USA had already started to experiment with international broadcasts, or shortwave. One such station, KDKA, belonging to the Westinghouse Comp-



← The BBC's formal exterior hides a hive of activity and lots of high technology equipment.

↓ Masts at the BBC Asia Relay Station, Nakhon Sawan, Thailand.



any, was set up in 1925 transmitting on a wavelength of 62.7 meters. It was regularly heard in the UK.

In Britain, some experimental broadcasts were started in November 1927 from the station 5SW located at Chelmsford. However, it took until December 1932 before the BBC Empire Service was officially opened. Broadcasting from Daventry, about 15 miles south west of Coventry, its aim was that everywhere in the Empire should be able to hear at least one broadcast each day from London. A few days after the opening, King George V broadcast his Christmas Day message to the entire British Empire. The service continued with this as its primary aim for a few years. Then in the late 1930s, Italy invaded Ethiopia and used shortwave broadcasting in Arabic to threaten British interests. The BBC quickly responded by introducing their Arabic Service in 1938.

Germany was also learning the power of international broadcasting on shortwave, as tensions rose before the Second World War. Again, the BBC responded quickly to counter the threat. By 1939, the BBC was broadcasting in eight languages. This rose to a total of 45 by the end of the war.

After The War

After the war the need for broadcasting changed. The threat of the Iron Curtain, and later the Bamboo Curtain meant that there was a new requirement for international broadcasting. The BBC rose to the challenge by focusing on un-biased news reporting, and reporting all sides of any viewpoint or conflict.

The name given to the service had changed a number of times in its history. At the beginning it was called the Empire Service. However with the launch of new languages in 1938, this was changed to the Overseas Services. Then in 1952, this name gave way and it was called the BBC External Services. This name was to last for 36 years until it was decided to implement the name that everyone knows the service by — the BBC World Service.

Bush House

The nerve center of the World Service is contained behind the impressive looking portals of Bush House. Located between the Strand and the Aldwych in central London, this building contains the offices and studios where the programs



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for the World Service are written, recorded, and sent out to all the transmitters around the world.

There are a total of 54 studios from which live transmissions or recordings can be made. This includes a suite of continuity studios specially designed for news presentation, as well as continuity announcements between programs, as well as for playing pre-recorded programs. In addition to these studios, there are a number of other studios that are only used for recording programs.

Another major feature of Bush House is the organization of all the different feeds to the different transmitter sites. This is a major undertaking, and to achieve it a special \$10 million control room has been installed. This came on line just as the 1991 Gulf War started, and engineers had to work long days to ensure that the required number of circuits could be provided to meet the BBC's needs. Now, life in the control room is calmer. However, its job is still very complicated because it has to route the correct programs to the right transmitters at exactly the right time. Even so, flexibility is still required to incorporate any day to day changes. This is no easy feat considering the number of transmitters and different programs that are involved at any given time.

News Programs

One of the major aspects of the BBC World Service is its news broadcasts. The emphasis is on news seen from a global perspective. On-the-spot coverage of events comes from a worldwide network of 250 BBC correspondents and 50 bureaus. Leading specialists and local reporters for the language services contribute in-depth regional knowledge. BBC monitoring from their monitoring station at Caversham about 40 miles west of London adds information from many international radio, television, and news agency sources.

Transmitters And Relays

The BBC broadcasts from a large number of locations around the globe to ensure that its signals gain the best coverage. Within the UK there are shortwave sites at Skelton in Cumbria in the North West of England, at Rampisham near Dorchester in the South West of England, and at Wooferton near Ludlow in the Midlands. There is also a site at

BBC Frequencies To Try In North America*

<i>Frequency (kHz)</i>	<i>Transmitter Location</i>	<i>Reception Time and Area</i>
5965	Sackville, NB	Early morning, East Coast
9515	Sackville, NB	Late morning, East Coast
6195	Antigua	Early morning, East Coast
15220	Antigua, then Sackville	Morning, West Coast
17840	Antigua, then Sackville	Morning, West Coast
11865	Okeechobee, Florida	Afternoon, East Coast
6175	Sackville, NB	Evenings, East Coast
9590	Sackville, NB	Evenings, East Coast
6175	Delano, California	Evenings, West Coast
9590	Delano, California	Evenings, West Coast
5975	Antigua	Evenings, East and West Coasts

***Transmitters other than Antigua are from sites owned by other broadcasters.**

"The BBC is playing a very active role in the development of Digital Radio. Some of its programs are already being broadcast on this medium in the UK."

Orfordness on the Essex coast to the East of London. This is used for the mediumwave transmissions on 648 and 1296 kHz to Europe. (In Europe mediumwave transmissions are spaced every 9 kHz and not 10 kHz as in North America.) All these transmitters are now owned by Merlin Communications International and operated for the BBC.

The Daventry site from which the first transmissions were made was closed in March 1992. While many people were sad to see its closure, it needed a considerable amount of updating, and other more modern sites were able to take on the load.

Around the world there are many other sites that are used. There are BBC relay stations on Antigua, Ascension Island in the Atlantic, Cyprus, Masirah Island in the Sultanate of Oman in the Gulf, on the Seychelles, in Thailand, and Singapore. Using these stations it is possible for the BBC to cover much of the world. These stations are owned by the BBC, but maintained by Merlin Communications.

In addition to these, the BBC also has agreements with other broadcasters to use


time on their transmitters. The chances are that transmissions heard in the USA will not be from a BBC site, but from one located within North America. Also a number of stations in North America have agreements to take satellite feeds of the programs and use them on their own transmitters. Finally the BBC can be picked up on a variety of satellites, giving worldwide listeners a variety of ways in which the "World Service" can be heard.

Future Plans

For the future, the BBC is investing heavily in new technology and new techniques. One idea is the broadcasting of audio on the Internet. The BBC has made a deal with AudioNet based in Dallas. Its broadcasts in English will be available 24 hours a day, seven days a week via the World Service Website located at <<http://www.bbc.co.uk/worldservice>> and at <<http://www.audionet.com/bbc>> via Audionet.

The BBC is playing a very active role in the development of Digital Radio. Some of its programs are already being broadcast on this medium in the UK, and it is leading a pilot scheme in major European cities.

Although the world of international broadcasting is changing rapidly, the BBC is playing a leading role in many new areas. While technology is forcing many changes, the World Service should be heard on the shortwave bands for very many years to come, as well as on a host of other new media. ■



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SONY

The Mysterious Radio 1212

This Undercover Station Helped Win World War II

By Alice Brannigan

“Here is Radio 1212 sending, Radio 1212 sending,” the raspy voice said in German. The hour was 2 a.m., an unusual time for a station’s broadcasting schedule to begin, but Radio 1212 was strange in more ways than one.

Nazi flags and regalia adorned the walls. Busts and portraits of Hitler could be seen throughout its offices. Known as “The Voice of The Rhineland,” it catered to its loyal German audience. In reality, the station was not in the Rhineland, nor even in Germany!

Radio 1212 had a brief broadcast life, a short broadcast day, and could be heard only during the graveyard shift. Its schedule ran from 2 to 6:30 a.m., and continued for more than four months. Yet, it had tens of thousands of listeners in German towns and in German Army field camps from Switzerland to Holland. They listened because Radio 1212 brought them something new to wartime radio broadcasting. Radio 1212 told the truth. Other broadcasters slanted their programming with political rhetoric, or exaggerated claims regarding war losses and gains. But not Radio 1212. Radio 1212 told the truth to gain an audience who believed.

This had been part of the station’s plan right from the start. Once its credibility had been assured, it switched to lies and deception. In the turnaround, the station caused thousands of German troops to be trapped. Some 350,000 troops from Army Group B surrendered in a single day — April 18, 1945!

Behind The Scenes

Radio 1212 was a so-called “black undercover” operation of the U.S. Army’s Psychological Warfare arm. Such stations pretend to be one thing, but in reality, are something completely different. Both Germany and England used such stations in World War II as early as 1940, but Radio 1212 wasn’t even *planned* until late 1944. Almost at once, the station was threatened by the German Army breakthrough, known as the Battle of the Bulge. But Allied lines held, and 1212 settled down to the job of getting the biggest possible audience in Germany, and convincing those listeners to believe they were hearing the unadorned truth.

A staff of announcers, writers and technicians were assembled at studios in a secluded house in Luxembourg, just a

few miles from the German border. Brewster Morgan, of CBS, was the program director, but all the on-air personalities were German-born. The chief announcer was Sgt. (later Lt. Col.) Benno Frank, a former professional actor who spoke with a distinct Rhine-Hessian accent. He was the real voice of Radio 1212. Captured German soldiers confessed that they simply had to believe everything he was saying.

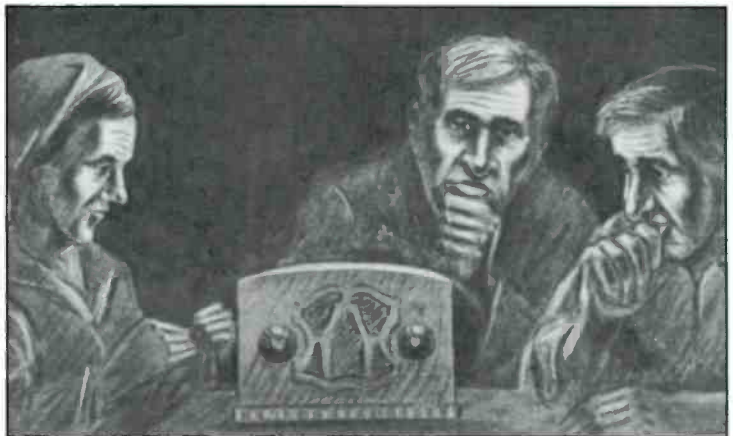
Radio 1212 had a fictitious cover story, an elaborate fantasy about its location and purpose. The station claimed to be in the Rhineland and operated by Germans loyal to their nation, but not to its Nazi government. They said Hitler wasn’t telling the truth about the war. As its patriotic duty, Radio 1212 vowed to tell the facts.

The method the station employed was to present eyewitness accounts, from the German viewpoint, of military operations. The stories were told in great detail. For example, after an Allied raid on a German town, Radio 1212 named the factories and shops that were wrecked, giving the names of those whose homes had been destroyed.

German troops wanted this information, so they became avid listeners. They



German soldiers at the front knew that Radio 1212 brought them factual information from home they couldn’t obtain elsewhere.



German civilians came to rely upon Radio 1212 for honest war news their own official stations didn’t broadcast. The station convinced them to establish anti-Nazi partisan groups.



Field Marshal Model (left in photo) was, quite unintentionally, one of Radio 1212's most effective propaganda writers. His corny directives to German troops were read verbatim over the air. Model's final order was for his troops to keep a stiff upper lip. Then he shot himself in the head.

didn't know the reports had been put together after Allied study of recon photos, city directories, phone books, captured letters, prisoner-interrogation reports, and signal intelligence.

Authentic Sound

The German field commanders knew that the station wasn't German, but they listened anyway. That's because it was, at times, their only source of accurate information on the fortunes of their fellow commanders and their armies. The official reports they received were often so vague that they were worthless. But 1212 was always there with accurate, current, detailed information.

The station was also entertaining. Its music came from recordings that were authentic German: folk songs, ribald beer-garden songs, popular music, and even waltzes.

Sports coverage was there, too! The important football games were played on Sunday but the German radio stations never broadcast the results until after they had appeared in the Monday newspapers.

So 1212, which didn't have to wait, had the sports scoop.

In its own subtle way, Radio 1212 had its own brand of sly propaganda. The German radio often failed to report bombing raids on German towns. In fact, the government asked civilians not to mention these raids in their letters to the front. They felt it would hurt morale. When the German soldier heard about the raids as reported over 1212, he realized he wasn't being given the truth from home. His morale was given a double blow.

To further depress morale, Radio 1212 broadcast speeches by local dignitaries. After hearing pompous phrases about fighting to the very last man, the soldier was likely to wish that the super-patriot who was such a great orator would join him at the front.

Drama also filled the airwaves, and sometimes the truth was bent over so slightly to enhance its impact. At 2 o'clock one morning, it reported that an enemy push was being made in the direction of a German town. The town was important, but Radio 1212 assured listeners it was an impregnable fortress. Later that night, news flashes announced the impossible was happening. The enemy was getting closer to the town. Fighting was reported in the suburbs. Then, at 4 a.m., the enemy took the town. Every ounce of drama was wrung from this story that so conveniently unfolded during the station's broadcast hours. The actual truth was that 1212 knew the town had been taken shortly before the station started its schedule that evening. So they carefully restaged the action for the delayed broadcast.

General Orders

Radio 1212's best propaganda writer was German Field Marshal Model, a particular favorite of Hitler, a particular favorite of Hitler. He had commanded the Ukraine-North Army Group on the Russian Front. But when the Allies started pushing the Germans back in France, Hitler personally selected him to lead German forces in the West. During Radio 1212's lifetime, he commanded Army Group B under the Supreme Commanders of the Western Front, Karl von Rundstedt, and his successor, Field Marshal Kesselring.

As a commanding general, Model was competent. But when he sat down to write, he turned out pure schmaltz. While his soldiers were engaged in a futile last-ditch fight to save Germany, Model issued homespun advice in his orders of

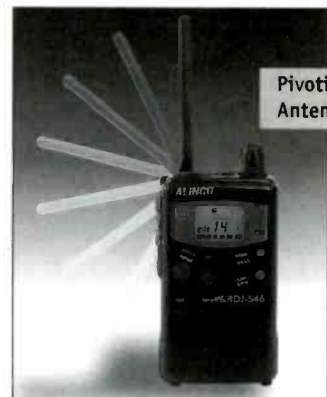
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Sgt. Benno Frank, a German-born American soldier, was the leading air personality at Radio 1212. Right after WW II, as an army Lt. Col., he was responsible for the re-establishment of German cultural institutions. In 1960, the West German government decorated him for his contributions to peaceful relations between Germany and the rest of the world.

the day, including how to wash woolen underwear without soap, a recipe for a ragout made of sawdust mixed with potato sausages, reminders that it is every soldier's duty to worship Der Fuehrer and



Brewster Morgan, formerly of CBS, was Radio 1212's able program director. He later received an Army commendation for leading a small task force to capture Radio Leipzig under combat conditions. After the war, he became a pioneer in the production of American TV commercials.

"Above the chaos, Benno Frank could be heard yelling, 'Put on the record!' and Radio 1212's theme song, an old Rhennish tune, came on for the last time. In the middle of the record, 1212 went dark and was never heard again."

die for the honor of the Fatherland, and so on German field officers thought these helpful hints so inappropriate that they conveniently lost them, instead of passing them on to their troops. Of course, Radio 1212 read them word-for-word. No rewriting could possibly have improved their effect on German morale.

The Writing On The Wall

One of the station's most significant successes was its apparently single-handed establishment of anti-Nazi groups within Germany. Radio 1212 told tales about how Nazi party posters, which bore the official party initials, N.S.D.A.P., were being defaced to leave only N.D., standing for Neues Deutschland, or New Germany. Radio 1212 reported that the good German citizens who did these deeds were seeking to preserve their nation by surrendering with some dignity before it could be totally destroyed by Nazi fanaticism. It told of patriotic civilians who circumvented the military to save their towns. They sprinkled in enough verifiable facts to be quite convincing.

When Germans heard what others were doing, they organized Neues Deutschland groups to create the reality of something they had assumed already was. In fact, when Allied forces finally reached Germany, they found altered posters just as 1212 had described!

True Colors

In April of 1945, the time had arrived for Radio 1212 to spring the trap it had so carefully baited. Allied armies were closing in rapidly on German forces in the Rhineland from both flanks. The German armies had only one way to escape the trap, and that was to retreat east of the Rhine River.

The battle reports from 1212 did not appear to change. Weary German commanders, whose own communications had become unreliable as the German systems began breaking down, couldn't tell that 1212 was selling the Allies short. When the Allied Seventh Army broke through

German lines in the south, 1212 reported that the German positions were holding firm. To the north, General Patton's American Third Army was reported as being 20 miles *behind* its actual location.

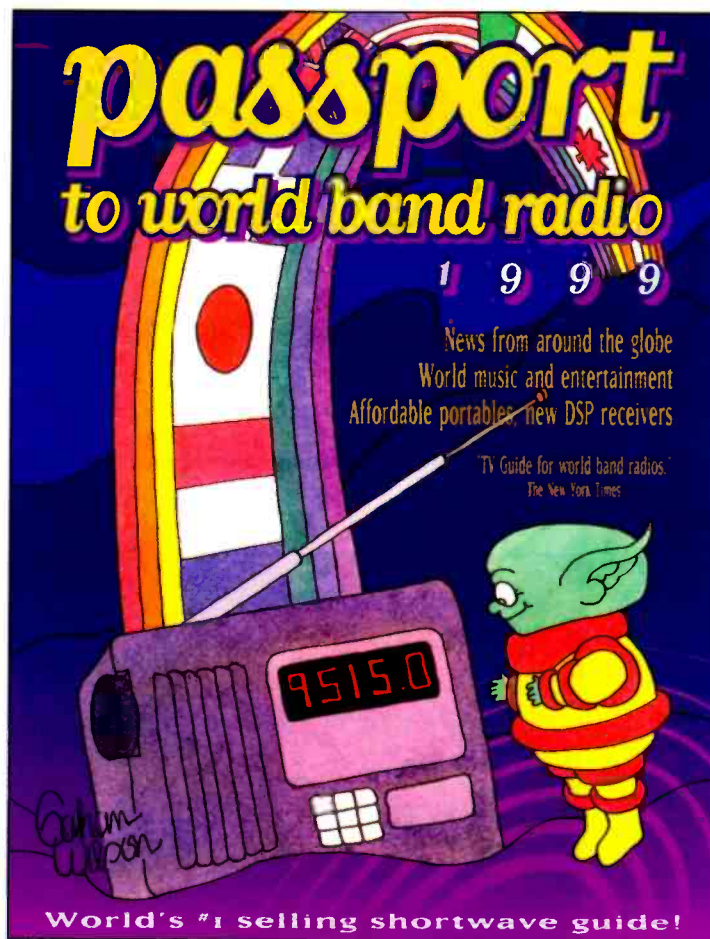
Meanwhile, the First Army moved across the Cologne plain and discovered the intact bridge across the Rhine at Remagen. Fifteen miles of riverbank separated it from Patton's left flank at Andernach — 15 miles through which the remaining German troops in the Eifel Mountains could have rushed to safety if they had known. But better escape routes were open, at least according to "reliable" Radio 1212. When German troops acted on this misleading information, they walked directly into allied traps. The same thing happened farther south on the Saar.

As the war passed the Rhineland and moved on toward Berlin, 1212's usefulness was over and its supposed location overrun by the enemy. It would have been easy just to pull the switch at the Luxembourg transmitter, but it seemed a shame to let the myth of Radio 1212 pass away in such a drab manner.

The build-up took several days. The announcers hinted that the Allies were closing in on them, but they insisted that the station would remain on the air until the bitter end. April 25, 1945 was the final morning. Messages about the imminent approach of the enemy became more frequent. Suddenly excited voices, shouts, and the splintering of wood interrupted a newscast. The enemy had finally located the station.

Above the chaos, Benno Frank could be heard yelling, "Put on the record!" and Radio 1212's theme song, an old Rhennish tune, came on for the last time. In the middle of the record, 1212 went dark and was never heard again.

We are always on the lookout for old time radio and wireless QSLs (originals or good photocopies), station photos, picture postcards, station listings, news clippings, etc. Our snail mail address is Alice Brannigan, *Popular Communications*, 25 Newbridge Road, Hicksville, NY 11801. You can send E-mail to me at <Radioville@juno.com>. ■



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BBC World Service

FCC Proposes Major Ham Test Changes — ARRL Agrees!

Now's The Time To Comment On The Proposed Changes . . .

By Gordon West, WB6NOA

The Federal Communications Commission has just released a Notice of Proposed Rulemaking; WT Docket 98-143, that could make the entry-level amateur radio license easier than ever, and the worldwide General class ham license more accessible to radio operators not wishing to send and receive medium-speed code. Even the American Radio Relay League (ARRL) agrees that the present General class 13 wpm code test may need to decrease down to 5 wpm.

"Dropping the General class code test speed from the present 13 wpm speed down to 5 wpm could very well expand the overall number of ham operators who know the code, as opposed to right now where many hams enter our hobby without learning the code," comments Tom and Pat Corso, KC6TC and KD6YNX, of the Kern River Valley Amateur Radio Club. "The new proposal could also put more teeth into amateur radio rules enforcement, plus resolve the questions volunteer examiners may have regarding applicants and their doctor-signed Form 610 certificates for examination credit," according to members of the W6LI Kern River Valley Amateur Radio Club.

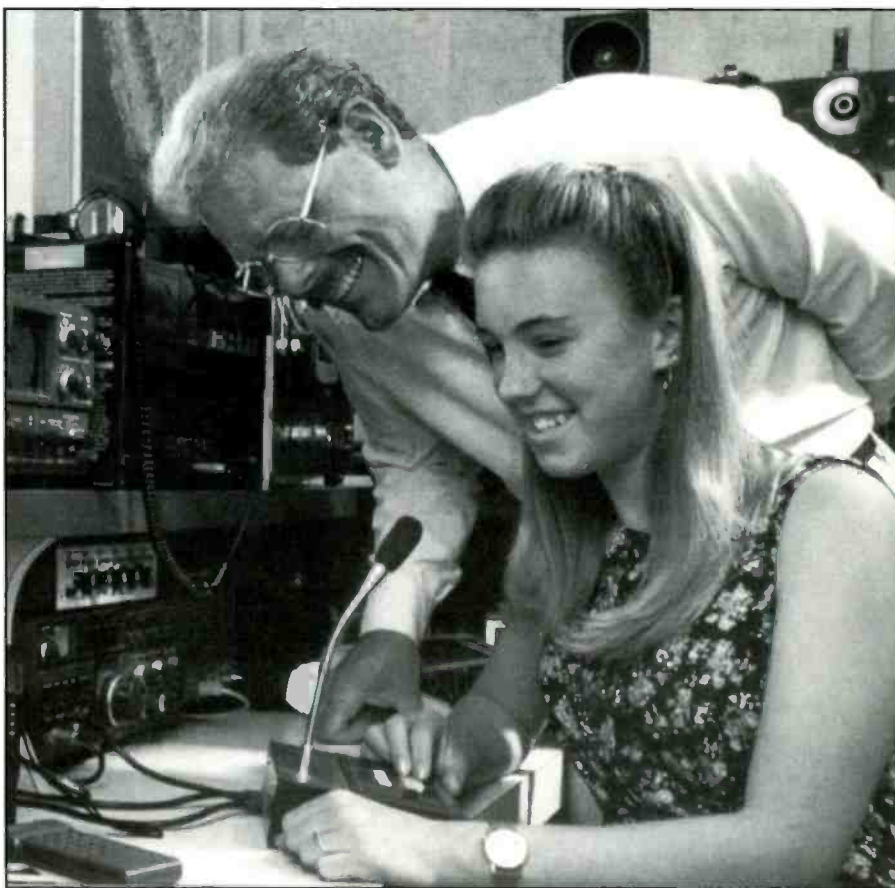
The Federal Communications Commission has issued a Six-point Notice of Proposed Rulemaking in an attempt to streamline the amateur radio service and the licensing process. Here are the details:

ITEM 1: Reduce the number of ham license classes from six to four.

ITEM 2: Provide greater opportunities to volunteer examiners (VEs) to participate in the examination process.

ITEM 3: Eliminate special callsigns for RACES stations. (Hang on, the idea isn't to eliminate RACES, but rather to simply remove the burden of issuing special callsigns.)

ITEM 4: Seek comments from hams



Changes in the amateur radio licensing structure might attract more younger hams.

on improving our enforcement process of the rules.

ITEM 5: Seek comments on changing the telegraphy (CW) requirements for code tests, and changing written examinations from the question pools.

ITEM 6: Consider other petitions for rulemaking which might be encompassed in this one NPRM.

The FCC proposes eliminating the Novice class license, as well as the Technician-plus 5 wpm license. Present

Novice and Tech-plus operators would be grandfathered and not lose any privileges. This would leave the entry-level first license as Technician no-code. It would also cut down on the total number of test questions by eliminating Element 2 of the old Novice exam. New Technician no-code operators would then find the revised Technician no-code test easier than ever to study and pass.

The FCC would then make the General class license as the FIRST entry onto the

worldwide bands below 30 MHz. By international agreement for the next several years, some sort of code test is still required. The FCC is asking whether or not the present 13 wpm code test is reasonable, or should be changed. The ARRL suggests a General class code test of 5 wpm. This would allow easier access to the worldwide ham bands, and encourage hams who don't already know the code to begin learning the code at the basic 5 wpm speed and passing the test for General class privileges. The General class written exam would remain relatively unchanged.

Think about all of the no-code operators that could easily learn the code at 5 wpm, and pass the simple written exam to ultimately upgrade to the worldwide ham bands. For those of you who may have a Technician-plus ham license, all you would need to do to get the General class is pass a simple General written exam.

Advanced class amateur operators may soon be able to administer General class exams. Previously, it required an Extra to give General tests. The FCC recommends that Advanced class operators be given the opportunity, too, since they have already passed the General class requirements themselves.

The Extra class might undergo a code test speed decrease, as well. The ARRL recommends a 12 wpm exam for Extra, and also would require a 12 wpm exam to the Advanced class level. Presently licensed Extra class operators will no doubt want the 20 wpm speed retained. This may turn into quite a battle, but the Extra class operators are far outnumbered by General and Advanced class operators.

The FCC agrees that their enforcement of the rules and regulations has not been as effective as hams would like it to be. They offer one possibility, for example, to encourage or require persons bringing complaints of interference to the Commission to include a draft order to show cause to initiate a revocation or cease-and-desist hearing proceeding. The FCC is asking for comments from legal-minded hams on what might be a good way to legally enforce the rules without taking up too much of their monitoring station's time.

The FCC Wants Input

The FCC also asks input from hams on whether or not the present 5, 13, and 20 wpm CW tests are at the correct speed. "We believe that telegraphers would be in less demand than electronics and communication experts, therefore, we pro-

vide an entry-level opportunity to otherwise qualified persons who found that telegraphy was a barrier to pursuing the purpose of the amateur service," writes the Commission. The Commission indicates that the international radio regulations that apply to the ham service make Morse Code a requirement for operation below 30 MHz, and it won't be until 2001 at the next World Radio Conference when Article S25 to eliminate the code requirement, is considered.

For the time being, the FCC is asking comments on whether or not the General and Extra class code speeds should be kept the same, raised, or *lowered*. But they make it clear they won't act on just a few comments. They need a lot of comments in order to come up with enough input to base their proposed rule changes.

But keep in mind that the entry-level 5 wpm code test for some small segments on the high-frequency bands now allocated for Novice and Technician-plus operators would be dropped. This means the only way to get onto the worldwide bands might be that 13 wpm entry-level code! The FCC wants your opinion as to

whether or not it should stay at a 13 wpm entry-level General code test, or whether or not it might be reduced down to 5 wpm, as we presently have an entry-level HF code test. The ARRL agrees that 5 wpm could be a good starting point for new operators to gain high-frequency, long-range, voice and CW privileges.

How Should The Code Test Be Administered?

The FCC also wants comments on how the code test is administered. Should it be



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Lowering the code speed test to 5 wpm will increase the number of beginners who will study for the worldwide license.

one minute of solid copy out of five minutes? Could the applicant go back and spruce-up their code copy after the test is over? Or should the test be a 10-question exam based on the copy written down? Would this test be multiple-choice or fill-in-the-blanks?

And what about the idea of a five to seven minute code test where the applicant needs to show one minute of intelligent code copy? We're not talking about one minute of letter-perfect copy, but rather a minute of good copy where the general meaning of the text could be understood. This is how most CW operators record their code, not necessarily letter perfect, but getting down the important points. What are your comments?

The FCC is also looking at the total number of questions in the question pools. Does memorizing over 800 questions really prove you are prepared for the new ham bands you upgrade to? Should the hundreds of questions be reduced down to half that amount, or one-quarter that amount? Should an applicant have to draw schematics or solve radio-related problems? Should the exam be essay? Should the licensee need to demonstrate a certain number of hours of operating time before the next upgrade?

Should the examination be written with certain requirements and electives? If you plan to operate ham radio digital communications, you might choose the digital elective test element, as opposed to the weak signal propagation element. Or if

you plan to do a lot of amateur television, you may wish to choose the elective video element. What do YOU think?

Leaving It Up To Hams

Probably the biggest surprise was the fact the FCC didn't give the ham community specific reductions in the testing process as anticipated. Rather, the FCC is leaving it up to all hams to come to a conclusion on the code and theory exams, plus the various levels of licensing. In other words, *it will be up to the ham operators to make their comments known to the FCC so the FCC can indeed come up with firm rulemakings based on popular opinion.*

Writing your comments is now easier than ever, thanks to the Internet. Comments may be filed through the FCC's Internet address at <http://www.fcc.gov/e-file/ecfs.html>. This puts you right on line with the Commission's electronic filing system and relieves you of having to make up those six copies plus the original mailing to the FCC.

However, if you wish to comment on paper, your filing should be sent to FCC, Commission's Secretary, Magalie Salas, FCC, 1919 "M" Street, N.W., Room 222, Washington, D.C. 20554.

If you send an original and six copies, you will be assured that everyone will get a chance to see your comments.

Whether you comment electronically or by paper, be sure to preface your letter with

"FCC WT Docket 98-143 in the Matter of 1998 Biennial Regulatory Review-Amendment of Part 97 of the Commission's Amateur Service Rules."

Persons with disabilities may contact Martha Contee at 202-418-0260, TTY 202-418-2555, for alternative formats including audio cassette and braille for the comments.

Comments MUST Be Filed Before December 1, 1998

That's just around the corner, so don't wait! Your comments will carry tremendous weight in this rulemaking.

There are also comments from No-Code International (NCI) which, by its name, stands for the complete elimination of Morse Code testing as a criteria for all amateur licensing. In their comments, they can live with a Morse Code speed of 5 wpm until the 50-year-old regulation called S25.5 gets voted out internationally in the year 2001. They call for a single 5 wpm Morse requirement for all license classes authorized to operate below 30 MHz.

You can read more about the NCI proposal by contacting Fred Maia, W5YI, Executive Director, at 817-461-6443 or on the Web at <http://www.w5yi.org> for their W5YI Report.

Comments are also requested from non-hams. If you are a shortwave listener or scanner enthusiast, make your comments known to the Federal Communications Commission. The ultimate decision by the FCC will probably be based on the majority rule. For every seasoned ham that may request a code speed twice as high as what we presently have, you can counter their vote by indicating your own Morse Code speed views. And for every ham who may write in saying keep things exactly the way they are, you can counter their opinion with your own written comment.

But one thing that WON'T work is if you just *think* about what you would like to see done to ham radio, and don't make your comments known to the FCC. You would be missing a golden opportunity to shape the future of amateur radio.

The First Of The New Year

When the FCC makes its ultimate decision in January, I guarantee we will probably see some major, positive changes on what it takes to obtain an amateur radio license for worldwide communications. Let your voice be heard! ■

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INTERESTING THOUGHTS AND IDEAS FOR ENJOYING THE HOBBY

All About Omni Gain

Whether you are a licensed ham radio operator on the 2-meter—144 to 148 MHz—band or an avid scanner enthusiast like me who enjoys pulling in DX signals on VHF high band—130 to 170 MHz—you know the importance of the antenna system to pull in the weak ones. You also know the importance of a top-quality scanner, plus land mobile-grade coaxial cable for minimal signal loss, but what about the actual antenna itself? Do you want to pick up stations in just one general direction, or are you looking for the greatest amount of reception in all directions?

Here's a simple test of your antenna I.Q.

Q. What is a simple antenna, tuned for VHF high band, that will offer all-direction coverage, including reception up to aircraft and satellites?

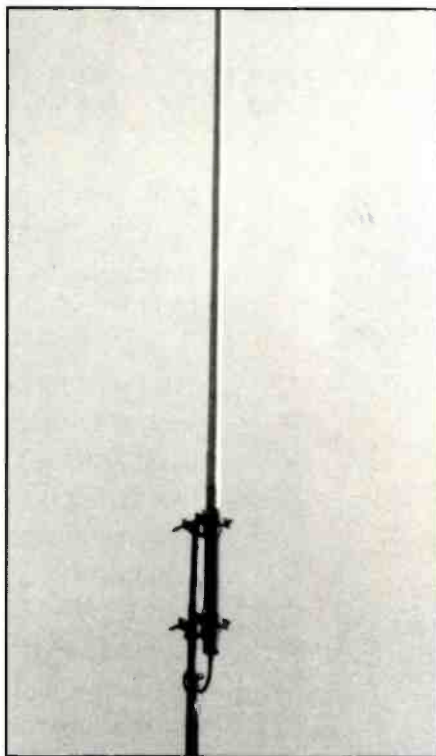
- A. The dipole
- B. The Yagi
- C. An isotropic radiator
- D. The ground plane

The dipole works well on shortwave frequencies, but would need to go *vertical* for scanning most VHF frequencies. You don't see many vertical dipoles, so this is not the correct answer.

The Yagi is a directional beam antenna. This is great if you just want to pick up VHF signals in one general 20-degree arc, but not good if you plan to pick up signals in 360 degrees azimuth.

The isotropic radiator isn't an antenna that you can touch and feel. It is an antenna *model* that describes the perfect radiation pattern of a vertical one-quarter wavelength whip over a perfect ground plane. It is an engineering comparison, and not the real thing with aluminum and copper parts.

The ground plane would be your first choice for an omnidirectional VHF antenna system, that would pick up vertically polarized waves in all 360-degree directions. The ground plane usually incorporates 45-degree, down-sloping, one-quarter wavelength radials to provide your scanner or ham set and 50-ohm coax feed system with a 50-ohm match. Ground



This 10-dB collinear has an internal matching transformer, so no ground radials are seen.

planes with the radials sticking straight out may look more like 30 ohms than 50 ohms. This is why most ground planes have radials that droop downward.

The ground plane is considered *unity gain*. It receives equally well in all directions, including (ideally) straight up. A simple one-quarter wavelength ground plane is an ideal antenna for receiving aeronautical signals, overhead satellite passes, land and marine VHF signals, and signals from your local police and medical helicopters.

But since ground plane antenna, cut for a specific VHF frequency, only offers unity gain, there is no general direction where energy can be concentrated into the feedpoint and down the coax into your receiver. To achieve antenna gain, you need to rob energy from one general area and "focus" the antenna system to develop a concentration of receive and transmit gain.

Q. An antenna with 3 dBd gain offers what increase in transmit and receive power levels?

- A. 2X
- B. 4X
- C. 8X
- D. 10X

Three dB of antenna gain will double incoming and outgoing power levels. Answer A is correct; 6 dB gain is a 4X increase in levels; 9 dB is an 8X increase; and 10 dB is a 10X increase.

So how do you get dBs of antenna gain? You need to do something physical to the antenna. You can increase antenna gain in one direction by stacking elements in front of, and to the rear of the antenna, to become a directional antenna. This is the classic Uda Yagi design, and probably one of the least expensive ways to obtain a VHF high-band Yagi is to purchase a 2-meter ham radio antenna. While tuned to 146 MHz, the 2-meter Yagi also works well on frequencies above and below it.

But how do you get increased reception in all general directions, and where does the concentration of energy get taken away from? There's a very popular antenna available that does this.

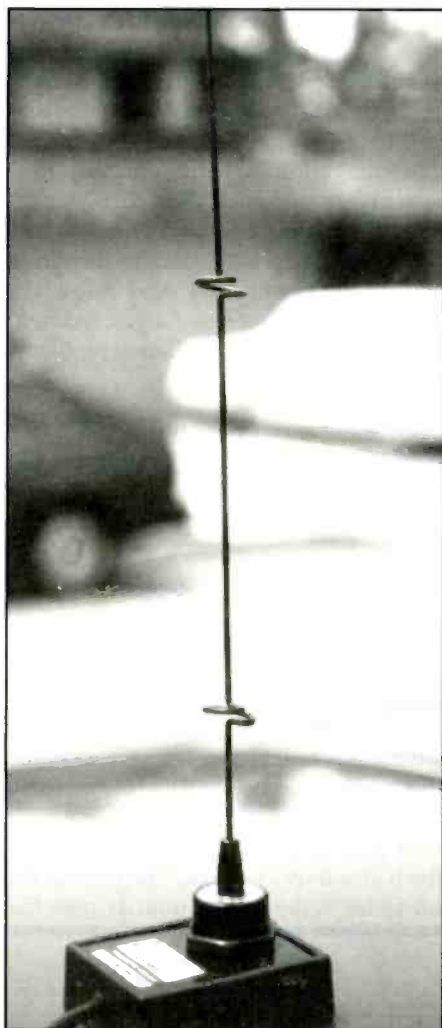
Q. What do they call a gain-type antenna with omnidirectional coverage?

- A. Log periodic
- B. Beverage antenna
- C. Collinear array
- D. Folded dipole

The antenna that offers increased gain in all general directions is called the collinear array. It is part of the phased array antenna system, where transmitted and received energy is concentrated in a more narrow horizontal angle. A collinear array involves stacking antenna elements one on top of the other, usually one-half wavelength long with a one-quarter wavelength matching network in between.

Q. So where does the gain come from?

- A. Increased element diameter
- B. Using copper elements
- C. Taking unwanted skybound radia-



Here's a popular mobile collinear antenna with open phasing coils.

tion and concentrating it down low to the horizon

D. Taking low radiation and radiating it up into the sky

The correct answer is C. The collinear array uses co-phased, halfwave dipoles configured end-to-end on a vertical mast. Sometimes the collinear incorporates the radiating elements and one-quarter wavelength matching network inside a white fiberglass tube. A common example of a collinear array is the venerable Stationmaster™ commercial antenna, favored by the land mobile industry for its dependable radiation characteristics and tough construction necessary for repeater sites. The collinear actually dates back to the time of Marconi, who was reported to use series coils to develop the proper phase relationships.

The collinear robs skybound energy and redirects it into the wanted low-angle radiation. This is how we achieve gain with the collinear — the skybound energy, not needed for picking up distant land

VHF stations, gets combined with useful energy capabilities down close to the horizon. The more vertical elements stacked in a collinear array, the further the reduction of the signal going up, and the strengthening of the antenna's capability down close to earth.

Q. How is the collinear's skyward radiation re-focused down close to the earth?

- A. Using phase relationships that may oppose radiation in certain directions
- B. Resistive coupled networks
- C. Reflectors placed vertically
- D. Flat elements rather than round

The collinear elements are co-phased to develop phase relationships along the radiators to influence the transmit and receive characteristics of the radiation pattern. The phasing networks and in-line placement of the radiators becomes a critical factor to develop low-angle increased gain, and high-angle nulls.

You can visualize the capabilities of a collinear VHF high-gain antenna by taking an old tennis ball and cutting it in half. Place it on a white piece of paper, and draw a line around the outside diameter. This line will serve as a reference for unity gain. Now push down on the top of the halved tennis ball, as if you were phasing out the vertical component of a transmitted signal with a collinear antenna. Notice what happens to the diameter of the tennis ball: as you decrease what is going up by pushing down on the top of the ball, you *increase the diameter of the circle*. Now draw another line around the flattened tennis ball, and then remove the ball and take a look at the increased diameter of your radio "coverage."

Some collinear antennas may easily be spotted by their open elements, stacked one on top of the other. Sometimes you can spot four elements, and sometimes there may be as many as six or eight elements. This type of collinear is useful because the technician can actually take energy from the top, as well as some energy in an undesired direction, and combine it for low-angle energy in the desired path. The technician does this by moving the individual elements to fine-tune the radiation pattern.

Some collinear antennas may have a small ground plane built right into the base. Others may use a one-quarter wavelength matching transformer. If you spot the little spikes coming out from the bottom of the collinear antenna, such as the popular Stationmaster, it is probably operating at maximum gain.

Some collinear antennas, like the Stationmaster, encapsulate brass elements within a sturdy fiberglass radome. This keeps the antenna protected against icing and heavy wind. When you go to a repeater site and look at all of the big white fiberglass poles, you are actually looking at collinear antennas that are encapsulated for weather protection. Inside the white radome are stiff copper elements that are phased for a specific radiation pattern and cut to a precise frequency of operation.

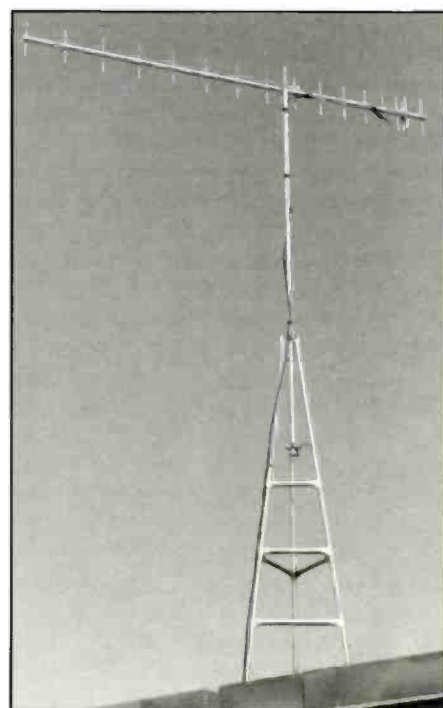
Q. What part of the collinear antenna most determines how wide a range the VHF antenna may cover?

- A. Element spacing
- B. Element diameter
- C. Element phasing
- D. Feedpoint transformer

A good collinear would offer low SWR over approximately 10 MHz of the VHF band. For land mobile radio transmission and reception, it is usually center-tuned to 155 MHz, with coverage from 150 through 160 MHz.

Shakespeare Antenna Company (Newberry, South Carolina) once manufactured a combination land mobile and marine mobile wide-band collinear antenna, covering 151 through 163 MHz. They also offered an amateur radio version that covered 144 through 156 MHz.

Yet, there are other collinears that may



The Yagi (rhymes with foggv!) offers gain in only one direction.

only offer 4 or 5 MHz of usable bandwidth with low SWR.

So how do collinear manufacturers broad-band their antennas? One of the best ways is to choose large diameter elements. Generally, the larger the diameter of the active radiating elements, the greater the bandwidth of operation. Those open element collinear antennas were favored among the land mobile industry because they were not fussy on exactly where in the VHF band they were to operate. This is why the big Stationmaster is such a popular antenna, because it uses heavy brass elements on the inside, offering optimum transfer of energy over a broader bandwidth.

Amateur radio operators may also choose single- and dual-band collinear antennas that are lightweight and relatively inexpensive. It's certainly less expensive than heavyweight commercial land mobile collinears!

The ham collinear antennas may only offer *half* the bandwidth as their land mobile counterparts. On VHF, the ham antenna is specifically tuned to 146 MHz, with 144 to 148 MHz the usable operating range. Above and below these frequencies, the collinear offers relatively high SWR and poor performance

on transmit. However, most ham collinears work great as receive antennas, tuning in from the aeronautical band at 120 MHz all the way up to the weather bands at 162 MHz.

When you put together ham collinear antennas, you will notice that the inside brass rods are relatively small and skinny. This causes the collinear to lose its broad-band capabilities, yet offers good performance at the specific frequency range for which it has been pre-set. Inexpensive ham collinears can also be phased in such a way as to offer dual-band, and even tri-band operation. But every time you squeeze another different ham band into one antenna system, all of the other ham bands reduce in their ultimate gain. If you are looking for the very highest gain collinear antenna, choose a single-band collinear, and get one as tall as possible, because the more vertical elements stacked inside, the lower the angle of radiation, and the longer distance you are going to achieve.

Q. Can a collinear have too tight a radiation pattern?

- A. Yes
- B. Too tight is no problem

When we operate collinear antennas on

UHF and 800 through 1300 MHz, the relatively narrow aperture of the transmitted and received signal may be just right for flat land operation. But take that collinear up to a mountain top, and its extremely thin radiation pattern may actually shoot thousands of feet over the head of the land stations down below, and there could be a major null in the direction of the community well below the 5,000 foot repeater site. So yes, too tight a pattern can create installation problems at the repeater site.

Q. What is one possible solution to a collinear antenna that overshoots the desired community?

- A. Go inside the collinear and readjust the elements
- B. Down tilt
- C. Up tilt
- D. Invert the antenna

If you have gone up to a repeater site or building-top location where there are a gaggle of white fiberglass collinear antennas, chances are you saw a couple that looked like the wind had blown them 10 to 15 degrees off of straight up. Don't be a good guy and go out there and put them absolutely vertical. They use *down tilt* to focus the energy directly onto the

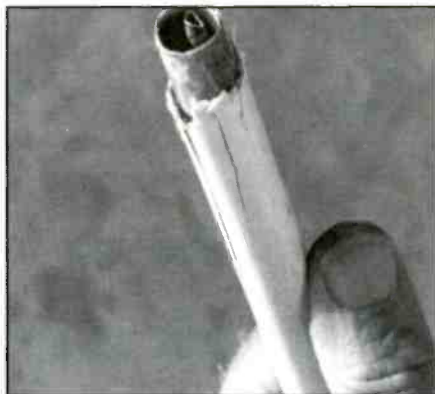


intended area of transmit and receive operation. The hefty mast brackets have traveling bolts that allow the technician to achieve just the right amount of down tilt to capture the best signal strength to stations well below the base of the antenna from the mountain top.

One drawback to this is that the collinear may only favor one general direction down below. More expensive single-band collinear antennas may incorporate omnidirectional down tilt in its radiation pattern from the factory. But these must be factory-ordered to a specific downward main lobe of radiation to insure you get the most bang for the buck. Sometimes you may be given an old surplus collinear that seems to tune up well on the 147-MHz ham band, but it just doesn't seem to work as well as your little lightweight hand collinear. Why? It may have built-in down tilt, and most of the incoming and outgoing signal is concentrated right into the earth directly below the roof of your house. This is why you can't always use surplus collinear antennas for low-level installations.

Q. What's the most common cause of failure of collinear antennas?

A. Icing and vibrating



Lightweight home collinears like this will not hold up well at repeater locations because of exposure to high winds.

- B. Lightning strikes
- C. Corrosion of the internal elements
- D. Water intrusion at exposed feed-point connectors

Both Answer A and D are correct. Up at repeater sites, collinears with exposed elements or broad bandwidth may ice up and break off. At repeater sites, collinears housed inside a white radome may vibrate in the wind, ultimately breaking the internal elements. This is why inexpensive ham radio collinears designed for home use usually don't survive a single season

up at a repeater site. Their thin internal construction without much dielectric support begins to vibrate, easily breaking the joints. The thin wall white fiberglass ultimately begins to crack, and the ham antenna designed for home use ultimately dies up on the ridge. If you're going to be mounting your antenna on a professional repeater site, go with the professional, expensive land-mobile-type of ham-tuned collinear.

But even the best collinear can't take water getting into the exposed coaxial cable connector. If you don't seal up the coax cable connector, rain will ultimately leak into the PL-259 or N connector, and you are off the air for good. This is especially true with the new type of ham radio air-dielectric feedlines, where moisture actually travels down the center of the air core, ultimately pooling at the base of the radio or repeater. I have even seen cases where moisture travels down the inside of hollow coax, and gets inside the repeater, ultimately killing it.

So keep your collinear antenna well sealed up at the feedline connection. If you need excellent omnidirectional coverage, the collinear antenna is a great choice, but choose your collinear carefully for the job it needs to do. ■

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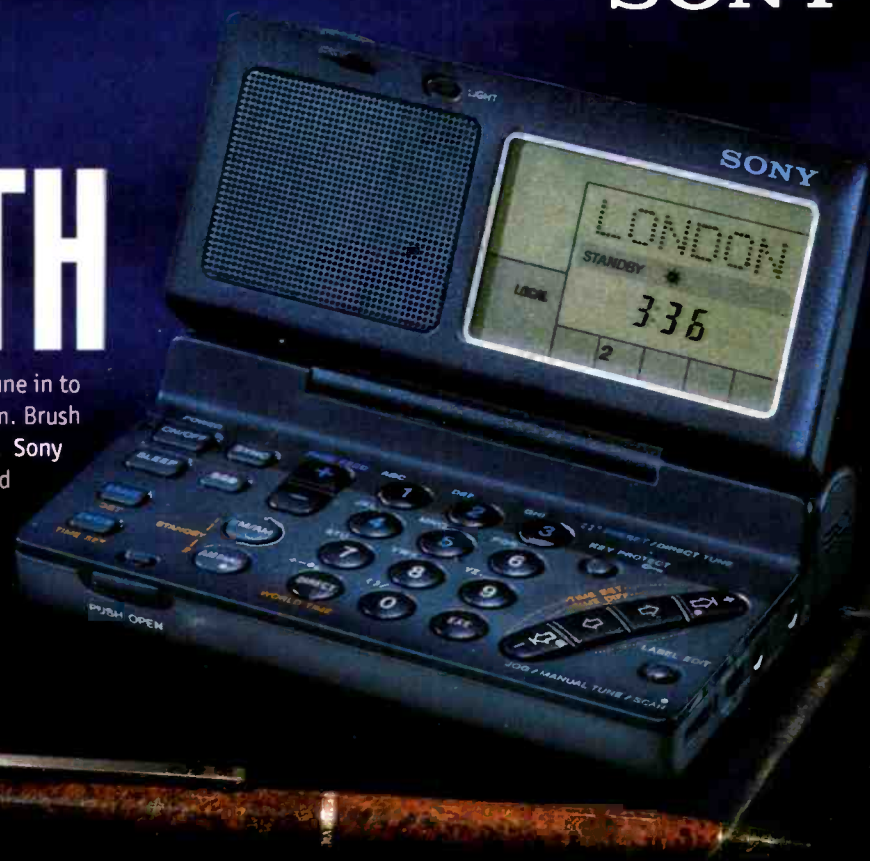
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BY PETER J. BERTINI
<RadioConnection@juno.com>

A LOOK BEHIND THE DIALS

My Corner Of The World, And Repairing Grille Cloth

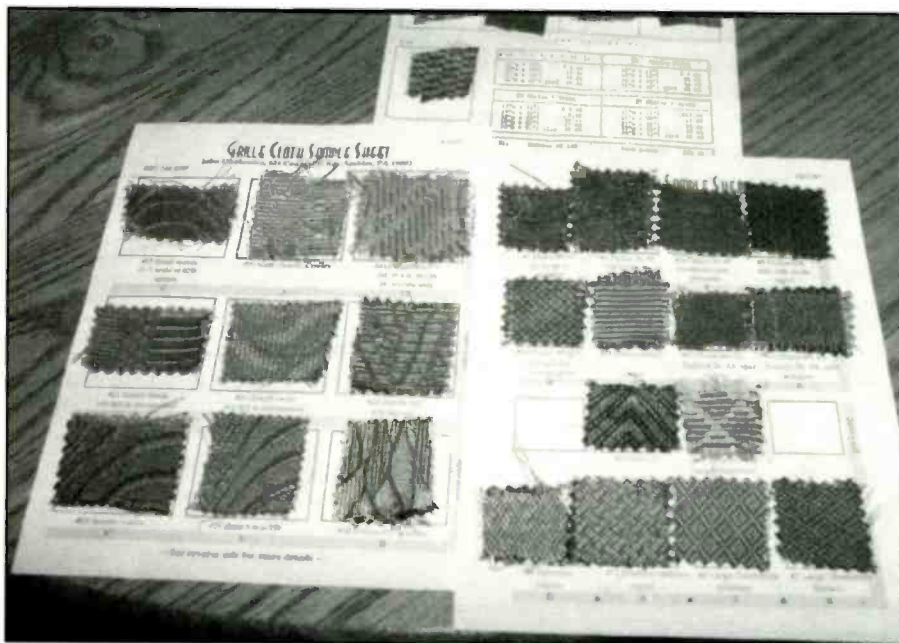
I've received a few requests to show the "Radio Connection" workshop setup. The "Radio Connection" operates out of a rather cramped, converted bedroom, housing my ham station, computer equipment, a workbench, and a smattering of antique radios. The overall effect is similar to living in a sardine can, or submarine. Nothing is getting done for lack of room. My 80-pound Lab, Midnight, insists on keeping me company; she takes up half of the free floor space in the process. We both need to go on diets.

I find my hobby is slowly becoming a small business thanks to the IRS, as my meager earnings as a freelance writer and editor are taxed at nearly 43 percent. Most of my antique radios are forced to live in the garage or cellar until a permanent display arrangement is negotiated with the wife. (She thinks the shed would be ideal.) Three lucky consoles are residing in the dining room and family room. I have to admit, I am bit envious of some of the photos I receive from other collectors with rooms full of properly displayed sets. Sigh.

In the spring, I'll be adding a new addition devoted to antique radios, vintage communications receivers, and my office. I need at least two full workbenches, and plan on monitoring stations with the latest and oldest gear I can muster together. If my dreams come true, I will share the photos with my curious readers — hopefully by this time next year. Glenn, my CPA, says it will be a business write-off, but over the next 39 years. My editor, Harold, advises me that the food is decent in federal prisons, but that I should worry about the VHF and HF reception. Maybe I can persuade Bill Price to take some photos of my carpentry in progress. It might make a hilarious "Loose Connection" feature: "Here's Pete nailing his thumb to a floorboard" sort'a stuff.

More Speaker Repair Notes

A few tips have been sent in regarding the column on repairing torn speaker cones. First, instead of tea bag paper, a



Here are a few examples of grille cloth samples from vendors.

reader has suggested using coffee filters. I haven't had a chance to try it, but it sounds like a good suggestion.

I have been advised that there is a thinner available for rubber cements. Reducing the thickness of the rubber cement by a small degree makes its application much easier, and also helps it to permeate into the old cone material. Rubber cement becomes thicker as the material is used, so the thinner will also help you to get the most use from each bottle. Look for rubber cement thinner at office supply stores.

Antique Electronic Supply carries Radio-TV service cement for repairing cones that have separated from the frame. A small 2-ounce bottle costs under \$3. The AES part number is S-10-302.

Antique Radio Grille Cloth

When evaluating a vintage radio, there are several important checkpoints to be considered. First, is the finish original? No matter how well a set is refinished, serious collectors prefer one with the

original finish in good condition. For my own radios, I am not as exacting. I want them to look new, with good finishes. Remember, for most sets from the 1930s and 1940s, the only proper finish is lacquer. Polyurethane, Tung Oil, or other finishes are very incorrect if you wish to keep the set authentic. They may look good, but the authenticity of the set is lost. I've had several sets refinished by an antique dealer who uses shellacs with good results. Shellac does look good; I am hard pressed to tell it from a lacquer finish. For some sets made prior to 1930, shellac finishes may have been used. The problem is shellac is not as impervious to water or alcohol damage as is lacquer. That is one way to tell if the original finish is shellac or lacquer — *alcohol will dissolve a shellac finish*. Of course, you should perform this test in an area of the cabinet that is not visible! Shellac must be mixed fresh; it does not store well, and requires a sprayer for best application. One good thing about shellac is its compatibility with lacquer. You can always add several finish coats of clear lacquer

over the shellac finishes without a problem. I am still mastering lacquering, and have several re-veneering and cabinet refinishing projects well underway for an upcoming column.

Another important consideration is the condition of the wood veneers. Are they chipped, loose, or starting to ripple from exposure to dampness? The condition of the chassis matters. While loose dust is not a concern, rust, missing tube shields, or missing filter capacitor cans detract from the set's value. Are the knobs correct, or are they incorrect substitutes? Reproduction knobs in wood or plastic are available from several sources, but a good reproduction knob is not inexpensive, and few look as good as the originals.

The final item is the grille cloth, which is a very important item when appraising the antique radio. It is strange, but I have grille cloths that survived being stored in damp cellars for eons. The wood veneers and substrates may have totally delaminated, but the grille cloth is still as good as the day it was made. On the other hand, the Philco 89 cathedral I found at a tag sale last summer had fairly good veneer, but the grille cloth had dry rot, simply pressing on it caused major rinds in the fabricate.

Cleaning Old Grille Cloth

If the grille cloth is acceptable, leave it alone. Stains can be removed by most professional dry cleaners, providing the fabric has not rotted. Make sure they are instructed to hand-clean the material, and advise the cleaner that they are dealing with an antique fabric. I have used spray carpet cleaners on my grille cloths with good results. The spray is allowed to foam on the cloth, followed by a gentle vacuuming with a small handheld when dry. I have also gently handwashed grille cloth using Woolite or other similar cleaners designed for delicate fabrics. Many collectors feel that an old radio should convey some degree of age — nicks and dings, some wear of the finish, and other signs of use are considered to be "proper" for a vintage radio.

Where To Find Grille Cloth Material

There are several major sources of grille cloth replacement material. Remember that it is always better to accept some slight flaws in the original cloth because even it can be replaced with material that closely resembles the original.

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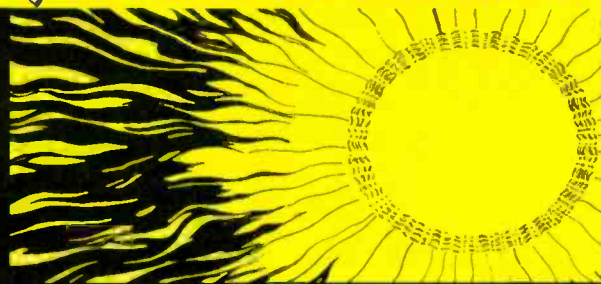
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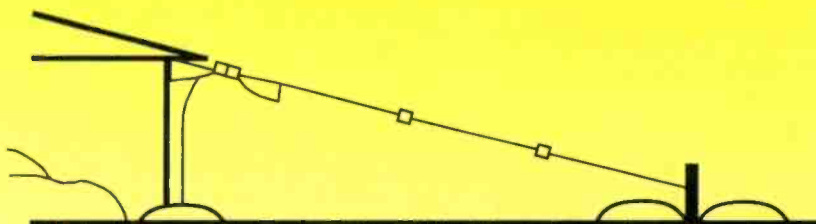
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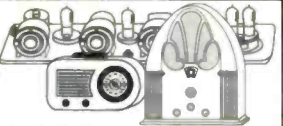
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Several new grille cloths awaiting installation. We'll show how they're installed next month.

Antique Electronics Supply carries many good quality grille cloth replacements. For several years I have been dealing with John Okolowicz for my grille cloth needs. John offers an excellent variety of reproduction grille cloth, and has come to my aid numerous times for replacements for my Zenith and Philco sets. His service is outstanding, and based on his good service, I highly recommend his products. John has granted permission for us to reprint the following material from his Website at <<http://www.grillecloth.com>>. It gives some good advice on grille cloth installation. His customers shared many of these tips with John. I have taken the liberty of doing some slight editing on the following material in the interest of brevity.

From John's Webpage:

"Grille Cloth Installation Instructions — Introductory notes: Cotton and rayon are made from natural sources and are very responsive to moisture. You can use this property to help you do a good job. By gluing down a slightly moist cloth, it will shrink to form a nice tight fit. Polyester is made from plastic and is not moisture sensitive. It should stay in place without using any special measures.

Installation tips:

1. Iron. If you plan on using spray starch, skip this step and go directly to step 2a. If you wish to skip the step (spray starch), you may use a household iron set

for "permanent press with steam" for a wrinkle-free cloth. If you don't use steam, don't expect to get any wrinkles out. Now go to step 3.

2a. Spray Starch. Optional, but recommended. This stuff is really great for two reasons: it gives some stability to the material and, secondly, it dulls the shine. In most cases you needn't do anything else. If you use this method, don't wet the cloth with steam. Set the iron for regular heat and iron the material out. If the cloth is too wet, it will stick to the iron. Experiment on a scrap piece first to get the hang of it. Or . . .

2b. Spritz. To have a grille cloth that is nice and tight when you are done, first wet it slightly with water using a spritzer before application. As the cloth dries it will shrink slightly which insures a nice and tight fit.

3. Stretch. A great way to stretch grille cloth before mounting is to use an embroidery hoop of appropriate size before mounting to the cabinet (or more commonly, a cardboard backing). Leave the hoop intact until the glue is dry and then remove. These hoops are available in plastic or wood and can be found at any craft shop. Wooden hoops sell for 50 cents and come as large as 12-inches in diameter. Plastic hoops cost around four dollars and are available to about 10-inches in diameter.

4. Glue. Spray adhesive works great. I use an industrial strength product made



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by Camie-Cambell, Inc. (See the grille cloth resources box.) An 18 oz. can of #300 all-purpose adhesive costs about \$8. If difficult to find, you may wish to try some alternatives, such as those made by 3M Company carried by most hardware stores. *Caution!* Please wait until the adhesive is tacky before applying the cloth, otherwise you risk permanent discoloration of the material!

5. Mounting holes. Because the speaker mounting hardware passes through the grille cloth, you will need to make holes in the material for this purpose. Use an awl or small finish nail to spread the fabric. Never use a screw or drill bit as they will grab the fabric threads and cause pulls over the grille cloth surface, ruining the material!

Need A Backing Board?

If the cardboard mounting board is hopelessly crumbling, a good substitute is illustration board. A 2 x 3-foot section of illustration board costs about three or four dollars. This is a very thick and stiff quality paperboard material that works

wonderfully for this application. Professional art supply houses have this in various thickness, while your chain stores, no matter how large, only carry this product in one thickness. If you are a serious restorer, it is worth the extra effort.

Optional Aging Tips:

Some replacement cloths may be too shiny or "new" looking for what the old radio should look like. If needed or desired, here are two methods, in the order of my preference, to alter the look of the cloth beyond what the spray starch will do. These steps will make the cloth look more weathered and worn. Obviously, these steps are done prior to installation.

Method 1: Use a strong solution of black coffee or tea, or even a mixture of both! It may appear that you are going to ruin a good grille cloth, but I assure you that will not happen. Rayon or polyester does not readily absorb dyes, and once the cloth has dried it will look much improved over the original. The shine will be reduced, and it will have a slight brown dullness to it. Whether you leave it for 20

minutes or eight hours, the effect is more or less the same. Rinsing in warm water will remove the coffee smell.

Method 2: Use a very diluted solution of shoe dye. I use Fiebings because it is soluble in alcohol. A small bottle runs about three dollars. I start with a bottle of light brown, and dilute a small amount (somewhere between a thimble full and shot glass) in a dye-to-alcohol ratio of about 1:3. You might consider beginning with a more diluted solution, and working backwards to prevent ruining your cloth. The shoe dye is very potent, and will permanently stain anything it touches, including your hands. Wear gloves. A ratio of about 1:6 approaches the mildness of the coffee and tea staining method. (*Editor's Note: this is a flammable mixture, take safety precautions and always work outdoors!*)

Console Applications

"Use a combination of staples and spray adhesive to mount the cloth. First, spray the board liberally with spray adhesive. You may need two or three coats, with a 30-second waiting period between applications, to overcome absorption by the wood. You can manually stretch the cloth by first stapling down one side and then stapling down the other side while stretching. To ensure the cloth stretches evenly, use a stick to wrap the unstapled side of the cloth. This will keep the amount of stretch uniform over the grille cloth's surface. This trick can be used for only one side, that is, top-to-bottom or side-to-side. The remainder will have to be done by hand."

Whew! That's a lot of good information about grille cloth installation. Next month's column will show some of the techniques suggested by John being put to use on some of my Philco radios. I have a few other tricks to add that will make your grille cloth installations easier.

Telefunken Revisited

In August, reader Jim Ashworth asked for help identifying his Telefunken radio. The response from our readers has been tremendous, with offers of schematics and other materials to help Jim with his restoration. Our thanks to readers Don Allen, James Decker, Jim Daffney, George Hall, and the others who took time to help this gentleman out! ■

Grille Cloth Resources

Please note: Where indicated, samples are based on current 1998 postal rates. Please adjust accordingly for the new rates, which will be in effect in 1999.

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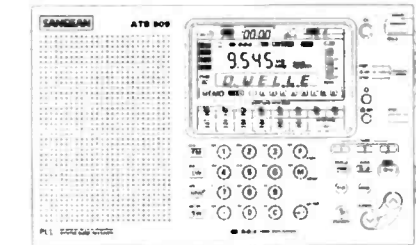
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TRUNKING, TIPS, TECHNIQUES, AND MODS

Don't Baste Your Scanner — Mall It

OK if they wanted a clever copywriter, they should have hired one! But seriously, this is the time when shopping centers near you are in full swing and shoppers dash here and there in an effort to avoid that last minute panic. There can be some entertaining listening here if you're game for something completely different.

I normally have our local mall's frequencies plugged into a scanner all the time. It's pretty interesting listening from time to time, and very entertaining the rest. My daughter works at the mall after school, so I may have a bit more of an interest in what's happening there generally than most folks. But at holiday time, if you've got room and your scanner's not too busy with other traffic, you might want to plug them in.

Most of the security officers and other mall radio operators are not professional communications specialists, to say the least. And during the holidays, there is likely to be a number of part-time staff added to help with the increased work load. This part-time staff often needs directions and answers to questions that customers may ask hundreds of times a day; questions that will usually be answered by a senior employee.

"It might be helpful for domestic tranquility to have a set of headphones around."

Our particular mall also runs into parking problems around the holidays, and a whole detail of folks are dedicated to helping solve that problem and transporting staff and guests to other off-site parking that is available. And to say the least, security is tighter and there are likely to be more problems in general during the holiday shopping season with so many people coming and going. And unfortunately, there are more opportunities for unscrupulous types during the holidays.

You can find store and mall security on just about any business frequency, so you may have to do some hunting to find just



Many speaker choices are available for scanner listeners. Most of us would probably do better with dedicated "communications" speakers from more traditional radio manufacturers, but these two from RadioShack can provide an economical alternative and still enhance the sound from your scanner. Shown are the XTS 40 (40-1991), which is the closest replacement for the Minimus 0.3 in the column, and the PRO 7AV (40-2048), a popular choice with both scanner listeners and shortwave enthusiasts.

what you're after. If you have one of the FCC data CD-ROMS, you can do a search for the frequencies, if you know the real licensee of the communications equipment. I say this because sometimes the malls are operated by a company other than the name of the mall, and sometimes the security and other services are contracted out to another company, which might actually have the license for any radio equipment in use.

Another good place to look is the itinerant frequencies, particularly within individual stores (larger stores all have security staff of their own). Equipment operating on these channels is widely available to anyone. They are required by definition to operate at low power levels, which is plenty to carry the signal within a building. You may not be able to hear them unless you are close by. Larger centers will have dedicated frequencies, possibly several channels to keep security and maintenance functions separated. Two of our local centers even use repeaters which makes listening all that

much easier since you can hear both sides of the conversation.

Finally, you may have some luck finding frequencies in more traditional references like *Police Call* and *Monitor America*. Both of these excellent references should be in your library as a good starting point for frequency information. For some cities, *Monitor America* actually lists mall and shopping center frequencies. Check it out — it could provide some great entertainment for the holiday shopping season.

Christmas Wish Lists

My wife is always complaining that she has no idea what she can get me as a present that I don't already have, and yet still relates to radio so I'll enjoy and use it. Even I have to admit that it's a tough order for a station that's already fairly well equipped. It's particularly difficult for someone who pays little or no attention to the radio the other 364 days of the year, unless there's a siren going by. She

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has a knack for hearing the sirens when we're in places where I either don't have a scanner along, or where I don't have their frequencies programmed in, but that's another story completely.

However, if you're in the same position, there are a couple of affordable accessories you might consider "dropping hints" for, or possibly leaving this article laying open with key words or pictures circled. I've never had the slightest bit of luck with this technique, but I have heard rumors that other people find it quite effective.

Antennas

Scanner nuts can never seem to have enough antennas. Of course, on a handheld, they're easy to change, so swapping back and forth can be advantageous for various conditions or frequencies of interest. Base users can also gain some mileage from changing antennas from time to time. Perhaps you've been using a model that you're not quite satisfied with, or perhaps you've got a second scanner that could use a little signal boost. On the other hand, if you're hearing all that you care to, a new antenna is probably not a good choice. We'll take some time to focus on antennas in a future column, but briefly, here are some things to consider.

Handheld antennas are self-contained, so the only real issues are performance versus what you're willing to be seen walking around with. Some of these antennas get to the point of being larger than the radio, and that always makes me wonder just how practical they are. If you don't have a *telescoping antenna* that can be adjusted for various frequencies, you probably should. If you're still using the antenna that came with your radio, you are really a good candidate for an upgrade. Look around and see what strikes your fancy, but keep in mind the other major consideration in handheld antennas: frequency coverage.

All antennas, not just handhelds, are built with particular frequency ranges in mind. The telescoping system that I mentioned above has the advantage of having adjustable length, which means adjustable frequency response too. I have a tendency to use ham antennas for my scanners because they are so widely available, and because they are close to the frequency ranges that I'm interested in hearing on my scanners. You may be able to get significant performance increases on a single band by using commercial antennas built for that specific



Frequency counters and "near field" devices can help you search for new frequencies or look for frequencies in use at a scene or event. Shown are the R-11 (no counter, but audio), the top-of-the-line Xplorer (audio and counter functions), and the Scout (no audio, but can interact directly with some scanners); all from Optoelectronics.

frequency range, but you are quite likely to sacrifice bandwidth—the ability of the antenna to perform over a wide range of frequencies. On a handheld, that's not a major concern, depending on the intended use for the antenna.

Base antennas, however, present a whole different set of problems. The major concern with a base antenna is likely to be performance over a broad range of frequencies that you are interested in, followed by how much room the antenna takes up in the attic or outside. Are you going to have to add structural support to the mast or tower in order to support the "wind load" of the antenna? It's something to keep in mind as you're shopping.

Another factor affecting performance is the frequency coverage versus gain. For the most part, you can't get both. Broadband antennas like the discone cover almost all frequencies in your scanner, but offer no enhancement of the received signal. If you're mostly interested in the local stuff or if the systems you listen to cover a wide range of frequencies, this may in fact be the best antenna for you. However, if you're listening to systems on a particular band more than others, it might be of interest to have a gain antenna. On base antennas, here again the hams tend to listen to the same range of frequencies that we do (except for 800 MHz). Some of their antennas can be dual band as well, covering both the 150 and 440 ranges—close enough to the public safety ranges that

we're interested in hearing. Or you can look into commercial systems, which are designed specifically for the frequency ranges you're interested in monitoring.

Mobile antennas come in all shapes and sizes too, and have pretty much the same considerations as base antennas. You can find systems with gain in particular frequency areas, or more broad-banded antennas intended for scanner use. The only additional consideration for a mobile antenna is how it mounts on the car. If you don't mind making Swiss cheese out of your car's trunk or fender, you can find all sorts of mounts. If you don't want any holes at all, your choices are much more limited. Keep in mind with all antennas that you can compromise some performance and get away with a lot in the name of cosmetics or convenience.

Speakers, Headphones, And Other Audio Accessories

If you're all set in the antenna department, perhaps you'd rather look at some accessories designed to help with the output end of the scanner. External speakers come in all shapes and sizes and for all purposes. If you've never used anything but your scanner's built-in speaker, I'll warn you that you might not want to try this because it's addictive!

External speakers can do a number of things for you. Most scanner speakers are



Many vendors offer cases for radios ranging from generic carrying cases to custom made for individual radios. Here's one that's available from RadioShack as a special order part for many of their handheld units.

mounted so that it faces up or down. Up is definitely better, since that's where we're more likely to be listening to it, but "up" doesn't direct the audio out into the room (or car) very well. By using an external speaker that faces forward, you can hear more of the sound.

Speakers can also be tailored to the voice range that you listen to on your scanner. Sometimes, depending on the radio you have, just a bigger speaker will make the audio a bit easier to listen to. Sometimes you might want a communications speaker available from the major retailers for a variety of applications. Even RadioShack has a few speakers that work well for scanner applications. I have been using the RadioShack Minimus 0.3 (40-1254, now discontinued) with some success for years. While not the best possible speaker, it does serve the purpose of getting the audio out into the room, and is cheap and small enough that a number of them can be used without making a major dent in shelf space.

If you can't get enough audio from your radio, you might consider any of the various amplified speakers that are on the market. With the proliferation of multimedia computer systems, amplified speakers are available everywhere at all

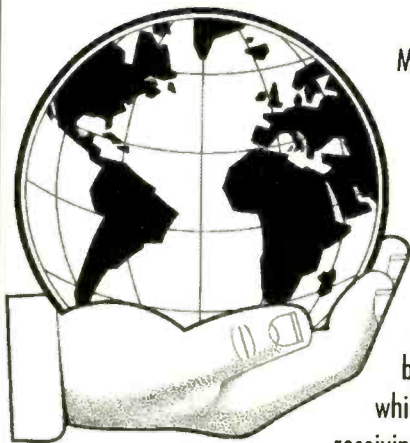
"You might also consider adding one of the many collections of FCC data to your arsenal."

price ranges. Keep in mind that you don't need a real high fidelity speaker to reproduce the voice information that most of us listen to on our scanners.

Finally, external speakers can be used to separate the audio: if you have more than one radio, the simple concept of using your ears to determine where the sound is coming from can help you distinguish what radio is active. If you make use of the banking features we discussed a couple of months back, you'll have no trouble telling what type of call it is, based solely on the audio location. External speakers can be mounted in the ceiling or walls, or can simply be placed at opposite ends of a desk. The idea is to put them in spots where you will hear the difference!

Depending on where your scanner is located in relation to the rest of the house, and more importantly the activity in your house, it might be helpful for domestic tranquility to have a set of headphones

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around. These can come in very handy for those late night listening sessions, or for listening to the scanner while others are watching TV nearby. Some shortwave listeners find that they prefer listening through headphones all the time, while others almost never use them. The only slight problem I've found with headphones is that picking a pair that you'll be comfortable with might be a difficult task for anyone but you.

Also be aware that headphones come in stereo and mono (mostly stereo for obvious reasons). Some of our receivers will support the stereo headphones by putting the signal into both ears, but most do not; you'll only get audio in one ear under these circumstances. There are adapter plugs to solve this problem, or you might prefer a pair of headphones that are optimized for communications listening, which are available from any of the major manufacturers of ham and shortwave equipment.

Another audio accessory that I get asked about with some regularity is audio filters. For shortwave listeners, these are a great help, depending on your receiver's capabilities. However, for scanner listeners, I don't think they are quite as



These sophisticated audio filters are much more useful for shortwave enthusiasts than scanner listeners, but some people find them helpful in certain situations. If you have a wide range receiver, you might want one for your dips below 30 MHz.

useful. Every once in a while on the AOL conference, someone will come forward and say that they use an audio filter and really like what it does for them — while some folks don't — but for the most part, these tend to be an expensive white elephant for your scanner. In my opinion, you'll get much more mileage out of a pure amplified speaker (which I think is how a lot of scanner listeners wind up using filters anyway). If you also listen to shortwave, you might find a use for one, and then you can hook it to your scanner to see how well it works. Some units, including the TimeWave 599+, have dual receiver inputs!

Finally, one other audio accessory might be of interest. Benjamin Michael Industries (BMI) NiteLogger (\$69.95 available through many dealers including Universal Radio in Ohio) allows you to set up a tape recorder and only record the activity, not the quiet times. This can be a great way to find active frequencies, or to help identify traffic on an unknown frequency, or a channel that's only busy when you're at work or asleep. Of course, you'll need a suitable tape recorder to go with this accessory, but hey, maybe Aunt Lou can provide that instead of the usual fruitcake or tie?

Handheld Accessories

If you do most of your scanning with a handheld, there are a few other items you might be interested in. Lots of manufacturers and third party companies are making carrying cases. Some of these are made specifically for the radio, while others, like the "Pouch" line are generic enough to be used with almost any radio. You'll have to look around a bit to see what strikes your fancy, but it can certainly help protect your radio should the unthinkable happen.

A new set of batteries might be in order

if you've had your radio for some time, particularly if your scanner operates off of an internal rechargeable pack, like many of the Uniden models. There's a good chance that the pack is not performing at its peak — they do lose efficiency over time. In addition, several third party companies, including Metro West, offer battery packs made from NiMH or LI Ion batteries that will outperform the factory NiCd packs any time.

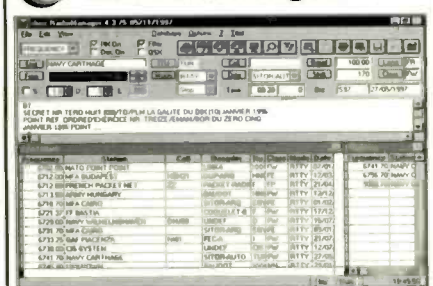
Some models also have a drop-in charger available as an option, either from the manufacturer or from third party companies. These chargers can sure make life easier if you cycle your battery often, and some can even help in the long term care and maintenance of your battery. Again, Metro West is the leading supplier of scanner related chargers and batteries, but there are other companies as well.

Decoders And Other Special Tools

If you've been scanning for a while, you might be getting a bit bored with the ordinary. How about a decoder of some flavor to spice things up? There are several multi-mode decoders that will receive ACARS and other digital data, with appropriate software. You can also use things like the Optolinks interface's data decoder with shareware and freeware software to decode a variety of protocols. Check into these before you leap in with both feet, as it can be a bit of a challenge.

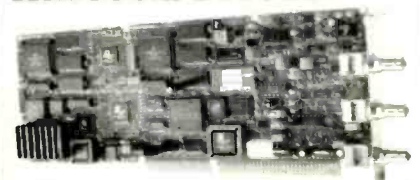
On another decoder note, something that is much easier to install is a tone reader, such as the DC-442 from Optoelectronics (sorry to sound like an Optoelectronics commercial here, but they do make so many cool scanner goodies). The DC-442 can decode CTCSS and DCS (the two systems of sub-audible squelch), as well as DTMF (Touch-Tones™ for phone calls). Depending on

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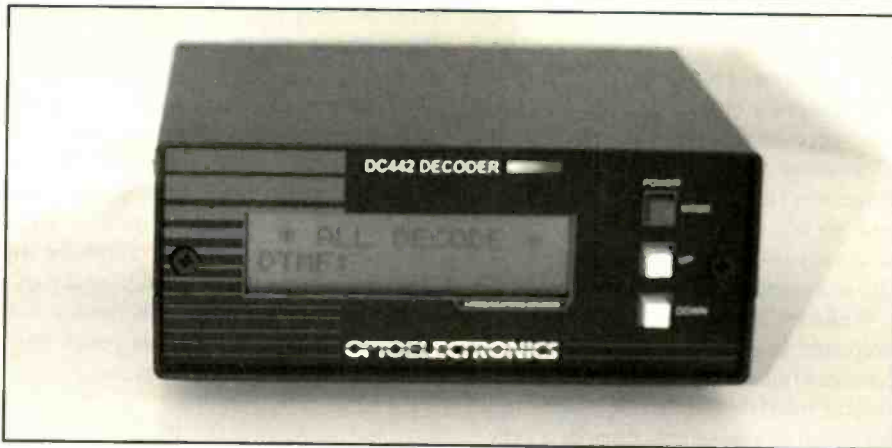
CIRCLE 75 ON READER SERVICE CARD

your radio, you may be able to add software (mostly the ICOM and AOR series) that will work with both the radio and the decoder to provide tone squelch functions for your scanning. Even without this, the tone reader function can be worth its weight in gold just to help you identify various agencies that are on a channel.

And finally, for this category, since we've opened the door, how about a computer interface? If you have an ICOM receiver or any of the high end AOR units, the interface is mostly there, you just need converters and cables, as well as software to make it work. If you have a PRO-2005 or 2006, you can add the (here we go again) Optoelectronics OS-456 interface. Or if you have the PRO-2035 or 2042 radio, the OS-535 works for you. These interfaces require some installation, but there are places that will do it for you if you're not comfortable. Either way, you wind up with one of the coolest scanners on the planet. And software allows you to take full advantage of the many features that these interfaces offer.

Resources

Another item you might want to consider for your holiday list is scanner



This multi-mode decoder from Optoelectronics can read CTCSS, DCS, DTMF, and a multitude of other alphabet soup codes. These can be useful in enhancing your scanning and identification, or work with computer control systems to provide additional capabilities. Look for the new Optotrakker which will support Motorola trunking as well.

"resources" — publications and information that might be of interest to you or provide information about your hobby. These range from subscriptions to excellent magazines like *Popular Communications* to frequency directories like *Police Call* and *Monitor America*. *Police Call* is widely available at RadioShack, so that shouldn't be hard to find, and *Monitor America* is available from most

of the major radio outlets via mail order, if not from a local supplier.

You might also consider adding one of the many collections of FCC data to your arsenal. If you don't yet have one of these CD-ROMS, they can be quite a valuable research tool, assuming your computer is so equipped. We'll be taking a survey of the major contenders in an upcoming issue, but ones that deserve your attention

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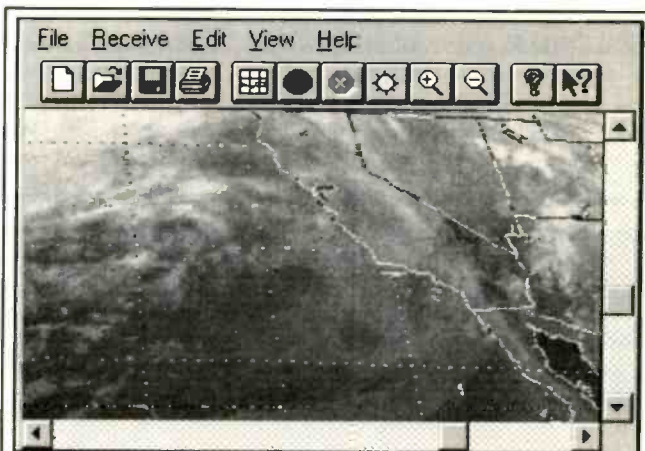
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are: Percon's Spectrum and regional collections (depending on the amount of data you're interested in), Scanner Master, and Mr. Scanner's collection. Most of these have very similar data in terms of the information that's there and the number of records (it's all based on government data, so it's only so accurate), but each have very different presentations of that data and searching/exporting capabilities.

While we're on software, you might be interested in a program just to help you *manage* your own frequencies. There are several available from the major radio suppliers, or you might consider a generic database application to build your own. I have eventually decided that this is the best, as no two people seem to keep the same information or want it displayed in the same way. Microsoft's Access is an excellent program for this, although a bit intimidating for new users.

Another database that seems to be gaining in popularity with radio enthusiasts is FileMaker Pro (one of the few that is available for both the Macintosh and Windows platforms). It's fairly easy (as databases go) to get started using, and has the capability to grow with you as your needs and knowledge expand. We'll take a closer look at this topic in an upcoming column. If you have a computer-controlled scanner, this might be an opportunity to upgrade your control software.

If you have all the frequency publications you need, but are still looking for new frequencies, perhaps a more active approach might be in order. Frequency

counters ranging from the simple unit at RadioShack to more scanner-focused items, like the Scout and Xplorer from Optoelectronics, might be just what you need to get out there and find those missing frequencies. Of course, these gadgets range in price from just under \$100 (including the micro counter from Optoelectronics) to about \$800 for the Xplorer, so you won't want to make this decision lightly. But if you have a rich uncle that's looking to further your hobby, it might be worth a mention.

A Completely Different Resource!

If you're looking for something completely different as a scanner accessory, how about a subscription to America On-Line? What? Well, don't forget that the Radio Communications Forum is one of the best "moderated discussion groups" left in cyberspace, and we have that great scanner conference every Thursday night, from 9 to 11 p.m. Eastern Standard Time in Conference Room One. If you need instructions on how to get there, just E-mail me from your America On-Line address and I'll be glad to give you a hand.

Every week we meet for this two hour block to discuss scanners and anything else that might come along. Most weeks we have a topic that starts at the top of the second hour and runs until people run out of questions. The first hour is always an "open discussion" and sometimes the

entire two hour block is open. There are topics ranging from antennas to bank usage, to how the receiver works, and even an occasional dip below 30 MHz just to see how the other half lives. Join us for the discussion, or just to drop in and share your knowledge of a particular topic—it's about the most fun you can have relating to scanners without actually scanning. It's hosted by yours truly, so I may be just a bit biased. The staff and several of the regulars are a bit off the wall, but we have a lot of pun (pun intended), whether we discuss radios or not.

Last Minute Panic!

Of course, lots of folks leave that shopping until the very end. This tends to have a detrimental effect on hobby gifts because few of us are blessed with having a major store in town besides RadioShack. So you might want to keep that RadioShack catalog handy as you make your recommendations, just in case the buying gets left until the end. More than once, I've gotten shirts and ties because I failed to come up with a list in time for the UPS folks to make the trip!

I did finally suggest to my wife that she could perhaps consider a mobile scanner holder. She said that sounded like a reasonable idea, but I'd have to tell her exactly what to get so that it was the right part. Actually, it shouldn't be all that difficult this time as any Mercedes S-Class should hold several mobile scanners quite nicely. Well, it was just a thought. I guess I'm back to the drawing board.

Time For One Quick Question

Stephen Takacs from New York is looking for frequencies in the New York City area, particularly the Valley Stream Fire Department, and would like to correspond with anyone interested via E-mail. His address is <thetank@raveny.com>. Send them along to us too, so we can share them with everyone.

Your Input Needed

"ScanTech" is your column. Please don't hesitate to write in with you questions or suggestions. Send all hardcopies via regular mail to Ken Reiss, 9051 Watson Rd. #309, St. Louis, MO 63126, or questions and suggestions via E-mail to <armadillo1@aol.com>. Until next month, good listening!

Just Circle the number and drop it in the mail box it's that easy



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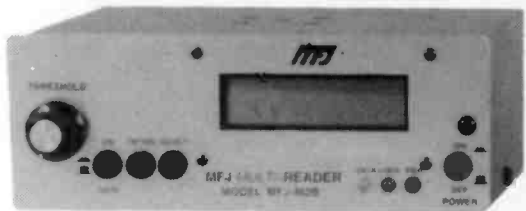
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MFJ-462B Plug this self-contained MFJ MultiReader™ into your shortwave receiver's earphone jack.

Then watch mysterious chirps, whistles and buzzing sounds of RTTY, ASCII, CW and AMTOR (FEC) turn into exciting text messages as they scroll across 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-1024 MFJ-1312, \$12.95.

Indoor Active Antenna

MFJ-1020B

\$79.95



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

\$39.95



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 1/4x1 1/4x4 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 TelePrinter™ 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

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 1/4x2 1/2x5 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.

Eliminate power line noise!



MFJ-1026

\$169.95

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

\$99.95



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

\$99.95

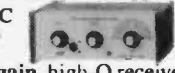


Two separately tunable filters let you peak desired signals and notch out interference at the same time. You can peak, notch, low or high pass signals to eliminate heterodynes and interference. Plugs between radio and speaker or phones. 10x2x6 in.

High-Gain Preselector

MFJ-1045C

\$69.95



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

\$149.95



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

\$39.95



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

\$99.95



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

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



MFJ 12/24 Hour LCD Clocks



MFJ-107B

\$9.95



MFJ-108B

\$19.95



MFJ-105C

\$19.95

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

\$59.95



MFJ-1702C

\$21.95

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

\$59.95 kit

MFJ-8100W

\$79.95 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

December 1998

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	9580	Radio Yugoslavia		0300	6040	Radio Monte Carlo, via Canada	AA
0000	9810	Radio Budapest, Hungary		0300	7115	Radio Sweden	Swedish
0000	11815	Radio Gaucha, Brazil	PP	0300	9435	Radio Prague, Czech Republic	
0030	4785	Ecos del Combeima, Colombia	SS	0300	9655	Voice of Turkey	various langs.
0030	5950	Radio Vilnius, Lithuania, via Germany		0300	9745	HCJB, Ecuador	
0030	6725	Radio Satellite, Peru	SSW	0300	11665	Radio Sweden	Swedish
0030	7345	Radio Prague, Czech Republic	SS/EE	0300	11785	Radio Iraq Int'l	EE
0030	9685	VOIRI, Iran		0330	4828	Zimbabwe Broadcasting Corp.	
0030	9885	Radio Vilnius, Lithuania, via Germany		0330	4935	Voice of Kenya	
0050	6010	RAI, Italy		0330	5905	Voice of Vietnam, via Russia	
0100	5637	Radio Peru	SS	0330	7500	Radio Moldova Int'l, via Romania	
0100	9570	RDP, Portugal	PP	0330	9475	Radio Sweden	
0100	9737	Radio Nacional, Paraguay	SS	0330	15615	Reshet Bet home service, Israel	HH
0100	11710	RAE, Argentina		0400	3330	Christian Voice, Zambia	
0100	11780	Radio Nacional do Amazonia, Brazil	PP	0400	4775	Trans World Radio, Swaziland	GG
0130	5045	Radio Cultura do Para, Brazil	PP	0400	4919	Radio Quito, Ecuador	SS
0130	6220	Radio Tirana, Albania		0400	4930	Radio Internacional, Honduras	SS
0200	4940	Radio Amazonas, Venezuela	SS	0400	6265	Zambia Nationala Broadcasting Corp	
0200	6155	Radio Romania Int'l		0400	9435	Kol Israel	
0200	7450	Voice of Greece	GG/EE	0400	9660	RAI, Italy	II
0200	7465	Radio Norway Int'l	NN/EE	0400	9730	China Radio Int'l, via French Guiana	
0200	9780	YLE - Radio Finland		0400	9885	Swiss Radio Int'l	
0200	11720	Radio Bulgaria		0430	6550	Voice of Lebanon	AA
0230	2460	Radio Alvorada, Brazil	PP	0500	4975	Radio Tupi, Brazil	PP
0230	4865	Radio Verdes Florestas, Brazil	PP	0500	5030	Adventist World Radio, Costa Rica	
0230	5990	REE, Spain	SS	0500	5077	Caracol, Colombia	SS
0230	6085	Bayerischer Rundfunk, Germany	GG	0500	7255	Voice of Nigeria	
0230	9605	Vatican Radio	FF	0500	7270	RTV Gabonaise, Gabon	FF
0230	9765	RDP, Portugal	PP	0500	7520	Radio Bulgaria	
0230	9945	Voice of Russia	SS	0500	7645	Kol Israel	
0230	9965	Voice of Armenia	SS	0500	9525	Channel Africa, South Africa	
0230	11920	RTV Marocaine, Morocco	AA	0500	9790	Radio France Int'l	FF
0300	3300	Radio Cultural, Guatemala	SS	0530	3366	GBC, Ghana	
0300	4800	XERTA, Mexico	SS	0530	4832	Radio Relej, Costa Rica	SS
0300	5498	Radio Laja, Peru	SS	0530	5004	Radio Nacional, Equatorial Guinea	SS
0300	5840	Croatian Radio	Croatian	0530	7155	La Voix du Sahel, Niger	FF
0300	6030	Radio Marti, USA	SS	0600	5025	Radio Rebelde, Cuba	SS
				0600	11860	Swiss Radio Int'l	
				0630	3290	Guyana Broadcasting Corp.	

UTC	Freq.	Station/Country	Notes	UTC	Freq.	Station/Country	Notes
0630	6015	Radio Austria Int'l, via Canada		1400	15650	Kol Israel	
0630	9560	Radio Almaty, Kazakhstan		1430	9660	Radio Veritas Asia, Philippines	
0700	3205	Radio Ribeirao Preto, Brazil	PP	1430	11785	Qatar Broadcasting Station	AA
0700	6070	CFRX/CFRB, Canada		1430	15160	Broadcasting Svc. of Kingdom of Saudi Arabia	AA
0700	11625	Radio Norway Int'l		1430	15445	FEBA, Seychelles	AA various langs.
0730	3935	Radio Reading Service, New Zealand		1500	9850	Radio Cairo, Egypt	AA
0800	5865	HCJB, Ecuador		1500	11895	Voice of Turkey	TT
0800	11880	Radio Australia		1500	17630	Africa Number One, Gabon	FF
0900	4890	NBC, Papua New Guinea		1500	21551	Voz Cristiana, Chile	EE/SS
0900	6185	Radio Educacion, Mexico	SS/EE	1530	9910	All India Radio	
0900	9580	Radio Australasia		1530	21605	UAE Radio, Dubai, UAE	AA
0930	4875	Radio Roraima, Brazil	PP	1533	21630	UAE Radio, Abu Dhabi	AA
0930	9700	Radio New Zealand		1600	11570	Radio Pakistan	
0930	9710	Radio Australia	Pidgin	1600	11905	Sri Lanka Broadcasting Corp.	unid
0930	9809	Radio Kiribati	EE/vern.	1600	15340	Radio Norway Int'l	NN
0930	11635	Far East Broadcasting Corp. Philippines		1600	17760	BSKSA, Saudi Arabia	AA
1000	4830	Radio Tachira, Venezuela	SS	1630	11805	Radio Oman	AA
1000	4995	Radio Andina, Peru	SS	1630	13675	UAE Radio, Dubai, UAE	
1000	6150	Radio Singapore Int'l		1630	15340	Radio Denmark, via Norway	DD
1000	6937	Yunan People's Bc Station, China	various langs.	1700	12135	Adventist World Radio, via S. Africa	Af. langs
1000	9475	Far East Broadcasting Corp., Philippines	CC	1700	13705	Radio Rossi, Russia	RR
1000	9795	Radio New Zealand		1700	15575	Radio France Int'l	FF
1000	9865	Trans World Radio, Guam		1730	11530	Voice of Hope, Lebanon	
1030	3280	La Voz del Napo, Ecuador	SS	1730	11735	YLE - Radio Finland	Finnish
1030	4779	Radio Oriental, Ecuador	SS	1730	12135	AWR, via South Africa	
1030	5020	Solomon Is. Broadcasting Corp.		1730	15238	Azerbaijani Radio, Azerbaijan	unid
1030	6100	Radio New Zealand Int'l		1730	15475	Africa Number One, Gabon	FF
1030	7935	CPBS-1, China	CC	1800	11625	Vatican Radio	unk lang.
1030	11715	Radio Korea Int'l		1800	11990	Radio Kuwait	
1100	5055	Faro del Caribe, Costa Rica	SS	1800	12689.5	Armed Forces Radio, USA	SSB
1100	6120	Radio Japan, via Canada		1830	12050	Radio Ukraine Int'l	
1100	9385	KHBI, Saipan		1900	9510	Trans World Radio, via S. Africa	vern
1100	9865	Radio Sweden		1900	15120	Voice of Nigeria	various langs.
1100	11660	KCBS, North Korea	KK	1900	15705	Radio Norway Int'l	NN
1100	11760	Radio Republik Indonesia	II	1900	17860	Deutsche Welle, Germany, via Rwanda	GG
1130	4755	RRI, Ujung Pandang, Indonesia	II	1930	12060	Voice of Mediterranean, via Russia	
1130	9845	Voice of Russia	Mongolian	2000	11657	Voice of Russia	
1130	15125	Broadcasting Corp. of China, Taiwan	CC	2000	15160	Radio Algiers Int'l, Algeria	
1130	15225	KSAD-AWR, Guam	various langs.	2015	13610	Radio Damascus, Syria	
1200	9760	Voice of America via Philippines		2030	6285	Voice of Hope, via Georgia Republic	
1230	6150	Radio Singapore Int'l		2030	9770	UAE Radio, Dubai, UAE	
1230	7130	Radio Taipei Int'l		2030	13715	Radio Havana Cuba	
1230	9640	Radio Canada Int'l		2030	15415	Radio Jamahiriya, Libya	AA
1230	15545	R. Vlanderen Int'l, Belgium		2100	9855	Radio Kuwait	AA
1230	17630	Africa Number One, Gabon	FF	2100	11700	Radio Budapest, Hungary	
1300	11705	Radio Japan/NHK	JJ	2100	11915	Merlin Network One, England	
1300	15200	Uzbek Radio, Uzbekistan	Uzbek	2130	17765	Voice of Greece	
1300	15445	Radio Nacional, Brazil	PP	2200	7225	RTT, Tunisia	AA
1300	17545	Reshet Bet, Israel	HH	2200	13760	Radio Pyongyang, North Korea	
1300	17745	Radio Romania Int'l		2215	7105	Cyprus Broadcasting Corporation	weekends
1330	5930	Radio Netherlands via Russia	DD	2300	6135	Voice of Turkey	
1330	13710	All India Radio		2300	7125	Radio Guinee, Guinea	FF
1330	17790	Radio Romania Int'l		2300	9485	Radio Bulgaria	
1400	5995	Radio Australia		2300	9725	Adventist World Radio, Costa Rica	
1400	9490	Radio Abkhazia, Abkhazia (Georgia Rep.)	RR	2300	13670	Radio Canada Int'l	
1400	9830	Radio Thailand		2330	4850	RTV Cameroon	FF
1400	11600	Far East Broadcasting Assn., Seychelles		2330	6020	Radio Netherlands	
1400	13580	Radio Prague, Czech Republic		2330	7210	Qatar Broadcasting Station	AA
				2130	15575	Radio Korea Int'l	

Product Parade

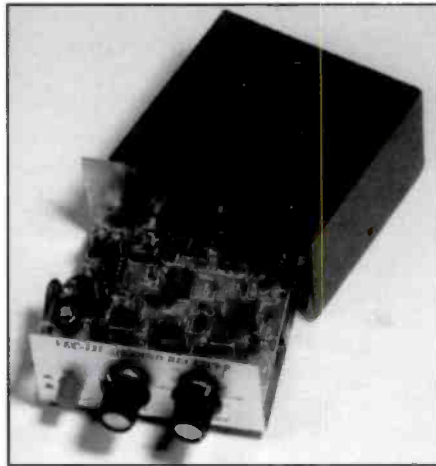
BY HAROLD ORT
AND R.L. SLATTERY

REVIEW OF NEW, INTERESTING AND USEFUL PRODUCTS

VECTRONICS Announces Electronic Hobby Kits

Over 30 different kits are included in VECTRONICS' new kit line. From shortwave converters to aircraft receivers and ham radio kits to an old-fashioned crystal radio kit, VECTRONICS kits feature epoxy glass pc boards with solder mask and screen printed components legend, and high quality components. An extensive owner's manual is written specifically for each kit.

VECTRONICS offers an optional custom cabinet for most kits, which includes a sturdy metal box, knobs, hardware, decals, and protective rubber feet. Their VEC-8100K Shortwave Regenerative Receiver with case retails for \$59.95, the VEC-101K Shortwave Converter, \$27.95, VEC-131K Aircraft Receiver \$29.95, and the VEC-1006K 6-Meter Receiver Kit, \$34.95. To order, or for



VECTRONICS' VEC-131K Aircraft Receiver is one of the company's 30 new kits.

your nearest dealer, call 800-363-2922 or Fax 601-323-6551. Their Website address is <<http://www.vecronics.com>>. VECTRONICS is located at 1007 Hwy. 25 S., Starkville, MS 39759.

Tripp Lite Ultra-Compact Inverters

Tripp Lite PowerVerter® DC-to-AC inverters provide 120-volt AC power by using the battery power of your automobile or RV. Their inverters are available in 140-watt and 300-watt models, and supply reliable power for laptop computers, household appliances at campsites, small power tools, and your radios. A cigarette lighter allows for quick connection.

Tripp Lite inverters produce a modified sine wave that closely matches the sine wave produced by utility companies. The company news release says the inverters are "sturdy enough for daily use, while still providing precision power for the most sensitive electronics. They feature a low-battery alarm to alert users to low vehicle battery voltage, and automatic inverter shutdown to preserve the vehicle's battery when unattended. The

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- 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

- 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.

Indicates for above listed radios only.

- 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

COPYCAT 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 SCANGAT 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" menus control all functions. Fully editable text buffer. 20 PROGRAMMABLE* menus and much more.

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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!
- Swivels to ANY angle, adjusts to any length.
- Fits ANY scanner with a BNC antenna connector.

CAT-WHISKER #1 (5 to 23 inches)... \$19.95
CAT-WHISKER #2 (6 to 36 inches)... \$24.95
plus \$3.00 S & H

HOKA CODE-3 USA Version

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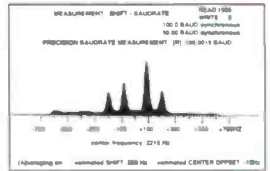
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This new MFJ clock features a large easy-to-read display and can even be mounted on the wall.

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A Guide For SWLs

The Worldwide Shortwave Listening Guide, edited by John A. Figliozzi, has now appeared in its updated second edition. This edition is a 112-page wire-bound book. The main section runs 91 pages and contains a 24-hour guide to more than 7,000 English language programs coming from 97 nations. The listings are arranged by UTC and indicate the station's identification, broadcast days, program title and description, targeted reception area, and frequencies. Each program is listed with one of 36 type codes to advise listeners of the type of program material, such as classical music, news analysis, comedy, shortwave radio, sports, etc.

Programs beamed to the Americas are highlighted in boldface type. An introductory section is provided that offers helpful information for the most effective monitoring of international broadcasting.

There's a section providing a cross-index of the most popular types of programs. This edition of the Guide also has information on monitoring international broadcasters via Internet audio, using your personal computer. The edition is available through RadioShack as catalog number is 62-1355 and it costs \$8.99. ■

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27-MHz COMMUNICATIONS ACTIVITIES

The Snake Strikes Again

It's been said before in this column, but it bears repeating: today's CBers really are in the catbird's seat. Right now, there are several companies — each with its own approach — making great CBs. As a result, those of us who enjoy CB radio have some great choices when it comes to selecting equipment.

Cobra Electronics has been making CBs for a long time, and with the introduction of the 148 GTL ST, the snake has struck again and scored a direct hit. The 148 GTL ST is an updating of Cobra's time-honored sideband mobile radio with a few modifications and, most importantly, with the addition of Cobra's SoundTracker® system.

This is a fairly large mobile radio that measures (HWD) 2-3/8 x 7-7/8 x 9-1/4 inches and weighs five pounds. Like all modern CBs, it offers 40 channels of AM transmit and receive, but it also offers upper and lower sideband.

Now, if you're new to CBing or maybe you haven't had any experience with sideband CB, here's the deal. An ordinary, AM-only CB is legally limited (by Federal Communications Commission rules) to 4 watts. The signal that an AM-only CB transmits consists of a carrier and two sidebands. The sidebands, (which are identical, except that one is upper and one is lower) contain the actual voice signal that is decoded at the receiver. The carrier exists only to help the receiver "lock" onto the signal. Not only does the carrier contain *no* information; fully half of the transmitted power is wasted in the carrier.

Some years ago, bright electronics engineers figured out that, if you could eliminate the carrier and one of the sidebands, you could transmit a "single sideband" signal that would pack a heck of a wallop. They built it, and it works great: a CB in single sideband mode has nearly twice the range of an AM-only CB. That's because it's putting 12 watts behind that one sideband. And it's all completely legal!

But, like anything else, all that extra performance comes at a price. First, it costs more to manufacture a CB with single sideband capability. Second, sideband works only when one station in side-



The Cobra 148 GTL ST brings Cobra's SoundTracker system to a sideband mobile rig.

band mode is talking to another station on the same channel and on the same sideband (upper or lower). A sideband signal is essentially unintelligible when received by a CB in the AM mode.

Finally, sideband is a bit more complicated to operate. Because there is no carrier for the receiver to lock onto, sideband CBs are equipped with an extra control called a "clarifier" (Cobra calls it "Voicelock") that allows you to tune the received signal for maximum clarity.

Because of its extra range and because it's just plain fun, sidebanding has become a kind of subculture within CBing. Instead of "handles," sidebanders generally use sideband club identification numbers, like SSB-734, and some special terms and lingo on the air.

Looking At The New Cobra 148 GTL ST

Throughout the years, Cobra has been one of the brands that sidebanders have relied on for top-of-the-line performance. The Cobra 148 GTL ST is no exception. At the upper left of the front panel, you'll find a small meter for measuring transmit and receive signal strength and SWR. Next to that, there is a switch that allows activation of the Automatic Noise Limiter, which reduces overall receiver

noise, and the RF Noise Blanker, which is very effective for repetitive impulse noise, such as ignition interference.

To the right of that, there is a switch for choosing between CB function and a PA (Public Address) function, which works if the radio is connected to an external PA speaker. The next switch to the right is used for selecting the function of the meter. When the switch is in the S/RF position, the meter swings proportionally to the received signal. When transmitting, the meter indicates relative RF output power. In the CAL position, the SWR meter can be calibrated by adjusted the SWR control to the "CAL" mark on the meter face. When in the SWR position, the standing wave ratio is measured.

Moving further to the right, there is a switch for choosing between AM mode or upper or lower sideband. Next, there is a three-position tone switch, followed by a button for activating the SoundTracker system. Above that are two tiny indicator lights: one for RX/TX, the other for showing that the SoundTracker has been activated. At the far upper right of the front panel is a red LED channel indicator.

Under the channel readout is a knob for selecting the channel. To the left of that, a three-position rotary switch that controls the brightness of the meter and the channel indicator for optimum intensity for day or night driving.


Moving again to the left, you'll find the Voicelock, which is primarily intended for tuning in sideband signals, but it may also be used to optimize AM signals. The DYNAMIKE control at the center of the lower front panel adjusts the microphone gain in the transmit mode and functions as a volume control in the PA mode. Next to that is a pair of concentric knobs. The inner concentric knob is the RF gain, which is used to reduce the sensitivity of the receiver under strong signal conditions. The outer concentric knob is used to calibrate the SWR meter. To the left is another pair of concentric knobs: the inner one controls the volume of the 148 GTL ST, and the outer one adjusts the squelch.

Finally, at the lower left corner of the front panel is a connector for the microphone. This front-mounted connector is a welcome change to the 148: it makes mounting easier than with a side-connected microphone. One of the small, but slick features of this radio is that the knobs include "fins" and "flats" that allow the user to feel where the knob is in its rotation without looking at it. Now, that may not seem noteworthy to you, but I generally mount radios in my van down by my side. I greatly appreciate the ability to know what's going on with a particular control just by reaching down and feeling it. In addition, I also like the fact that the volume and squelch controls are at one end of the control set and that the Voicelock is not located right next to the channel selector, which could be easily bumped while changing channels.

The four-pin hand dynamic hand microphone that is included with the 148 GTL ST is ergonomically designed to fit better in the palm of your hand and has Cobra's distinctive snake emblem molded into it. According to Cobra, the 148 GTL ST includes a logarithmic speech processor that is designed for maximum punch and intelligibility.

On the bottom of the case is a grill for a three-inch speaker that provides plenty of volume in even the noisiest environments. On the back panel, there are connectors for the antenna, power cord, an external speaker, and a PA speaker.

What really sets the Cobra 148 GTL ST apart, however, is its performance. For starters, Cobra has what is arguably the best receiver in the business. It's really quiet, and nobody makes a better automatic noise limiter and noise blanker. That, in my opinion, has always made Cobras a pleasure to listen to. But this radio goes one better: it includes the SoundTracker system, which Cobra



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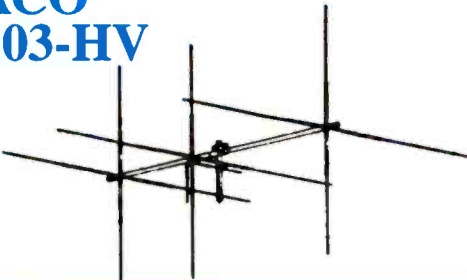
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claims cuts incoming noise up to 90 percent. Now, I realize that is a pretty extraordinary claim, but let me just say that you have to hear it to believe it. If you start on an unused channel with the SoundTracker off, crank up the volume, and turn the squelch off completely. You'll notice a level of background noise. Now, activate the SoundTracker system. Most of the noise seems to just melt away. Amazing! In some cases, the noise reduction is so dramatic that it appears as if the squelch had been activated (it hadn't). And with the SoundTracker activated, you can set the squelch level so low that you can hear faint signals that you might have otherwise missed.

The Rig On Transmit

On transmit, the 148 GTL ST performs very well, with a good sounding signal with nice modulation. Activate the SoundTracker, and the high audio frequencies are accentuated on transmit, which helps to cut through when a channel is noisy. With one of Cobra's amplified hand microphones, such as the CA-79, set at about 20 percent amplification

(two on a scale of 10), the 148 GTL ST sounds very good indeed.

This is one radio I can wholeheartedly recommend for anyone who wants a mobile sideband CB with superior performance. Suggested retail price of the 148 GTL ST is \$289.95. For more information, visit the Cobra Website at <<http://www.cobraelec.com>> or call 773-889-3087. Dial 888-262-7229 for a demonstration of the SoundTracker system you can hear for yourself.

Cherokee On The War Path

Not content to make some of the best CBs around, the folks at Cherokee have come up with some new goodies to covet. Case in point: the TM-2000 and TM-3000 SWR, power, and modulation meters. The TM-2000, which is designed for 10/11 applications, covers from 26-30 MHz at power ratings of 10 watts, 100 watts, and a kilowatt. The TM-3000 can be used for both CB and most ham applications, since it covers from 1.6-60 MHz at 10 watts, 30 watts, 300 watts, and 3,000 watts.

I checked out these meters on my own station, and they work as great as they



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Cherokee's TM-2000 and TM-3000 SWR/power/modulation meters work as good as they look.

look. They're easy to use, and the instructions are clear and easy to follow. To check transmitted power, set the function switch to FWD, key the microphone and read the scale corresponding to the power range you have selected. Note: for stock, legal CBs, it should be the 10-watt range. A button lets you choose between reading average power or peak envelope power.

To measure SWR, select the SWR position, push the calibration button to the CAL/SET position, key the microphone, and turn the calibration knob until the needle points at the calibration mark. Push the calibration button again to return it to the SWR/MOD position, and you're ready to measure SWR every time you transmit.

Measuring modulation works in a similar way. Set the function switch to the MOD position and put the calibration button in the CAL/SET position. Key the transmitter and adjust the calibration knob until the pointer is at the full-scale position. Return the calibration button to the SWR/MOD position, and you can read the percentage AM modulation whenever you transmit.

Like everything that Cherokee makes, the fit and finish on these meters was top of the line, and they make an excellent addition to any station. The suggested retail price of the TM-2000 is \$119.95; SRP of the TM-3000 is \$149.95.

Cherokee Offers Killer Antenna For AH-100

Others have written eloquently about Cherokee's AH-100 handi-talkie: it is, as

"Like everything that Cherokee makes, the fit and finish on these meters was top of the line"

far as I know, the world's only 11-meter handheld transceiver that includes single sideband. As such, the AH-100 is a force to be reckoned with. In SSB mode, the AH-100 offers more range from radio to radio than any other handheld I've used. Until now, it was the all-time range winner in the handi-talkie wars.

But now the SA-4 is available from Cherokee. The SA-4 is a 30-inch flexible antenna that attaches right to the top of the AH-100. It's more than three times the length of the standard antenna and roughly the same size as many mobile antennas. With an SA-4 coupled to an AH-100, we now have a new "king of the mountain."

Now, granted a 30-inch antenna is not something you can slip in your pocket or under your jacket, and sometimes it can be a bit awkward. But when absolute range is critical, like out in the woods or on a fishing boat, the combined performance of the AH-100 in single sideband mode and this giant antenna simply can't be beat. The suggested retail price of the SA-4 antenna is \$49.95, although some outlets may have them for less. For more information, contact Cherokee at 800-259-0959.

Until next time, keep those cards and letters coming (and don't forget your shack photos) or you can E-mail me at lightkeeper@sprintmail.com.

How I Got Started

*Congratulations To Kevin Michaels
Of Hawaii!*



Kevin Michaels at his shack in Hawaii.

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 *Pop'Comm*, 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 *Pop'Comm*. Address all entries to: "How I Got Started," *Pop'Comm*, 25 Newbridge Road, Hicksville, NY 11801 or E-mail your entry to <popularcom@aol.com>, letting us know if you're sending photos.

Our December Winner

Our *Popular Communications* reader, Kevin Michaels of Hawaii writes, "I started DXing 30 years ago with my TV, then around the same time, I got my first multi-band receiver that had AM, FM, the marine band, and shortwave. I converted the FM band to the VHF (108-174 MHz) band to hear ham, air and marine, then later got a Realistic Patrolman SW-60. In the '80s, I got a Uniden Bearcat XLT-800. I later got into satellite DXing. All of this was when I was still in California.

Today I monitor all frequencies from 150 kHz to 1300 MHz in the FM, AM, and SSB modes. My favorite bands to monitor are the marine bands, FM, and TV. I have over 150 QSLs from around the world adding to my love of the hobby. I started to collect old multi-band radios, and in the near future want to start communicating on 11 meters and 2-meter ham. For 30 years I've been in radio, and the fun has not stopped." ■

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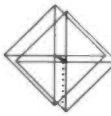
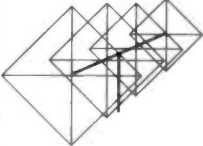
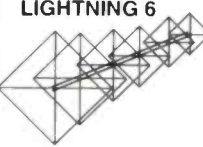
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The Pirate's Den

FOCUS ON FREE RADIO BROADCASTING

Pirates Talking With Pirates, And Lounge Lizard Radio Celebrates Its First Anniversary . . .

We've got a good batch of reports again this month. You've been busy and so have the pirates. Let's take a look.

Lounge Lizard Radio, 6955 SSB heard at 0304 with Rhode Island mailing address and mention of it being their first anniversary show, broadcast from the Firestick Lounge. Another time they were heard at 0622, and went off at 0623. (Tim Taylor, VA) Heard at 2206 with repeat of their first anniversary program. (Lee Silvi, OH)

WMPR, 6955, with IDs at 0009, 0013, and 0022. Also heard at 1533 with New Age type music and many IDs. (Taylor, VA) 2323 with techno-pop, IDs, "Golden Years" theme, and hard rock. (Dave Jeffery, NY)

The Pirate Station, 6955 SSB heard at 0223 with sound effects, Morse code, and IDs. (Jeffery, NY)

Betty Boop radio, 6955 USB at 0230 to 0303 close with a presumed repeat of their second program. Also heard at 0231 with Betty Boop music, Popeye theme, possibly Meatloaf. (Silvi, OH)

Voice of the Rock, tentative, 9655 at 0032 to 0055. Very faint and then faded. Tentative, again, at 1301 to 1400 but barely audible. Definite ID at 1228 to 1235 fadeout. Heard a positive ID at 1233. (Silvi, OH)

Radio Senseless, 6955 USB with test at 0240 to 0242. (Silvi, OH)

Reefer Madness Radio, 6955 SSB with IDs at 0300 and 0310 and mention of Belfast, NY address. (Taylor, VA)

Radio Metallica, 6955 heard at 1522 with "hashy-sounding" audio. Various rock songs and singers. Station went off after the "Secret Agent" theme was heard at 1537. Again at 1838 with various songs, including one by Metallica. (Taylor, PA) 0050 to 0212 plus on 6954 with the usual format. (Silvi, OH)

Mystery Radio, 6955 SSB at 0250 with an ID and sign-off after playing various songs. (Taylor, PA)

Radio Butterfly, via WREC, 6955 SSB at 0114 with mention of WREC relay, music, ID, rock version of the national anthem, and pirate music.



This Radio USA QSL was issued a couple of years ago.

Announced the Providence, Rhode Island address. (Jeffery, NY)

WREC — Radio Free East Coast, 6955 SSB at 0130 with ID, music, funny sketches, and commercials. Off at 0220 with Belfast and Blue Ridge Summit addresses. (Jeffery, NY)

He-Man Radio, 6955 at 2017 with "Who Loves You" tune, ID, audio test, and then off suddenly at 2230. While testing, He-Man conversed with Pirate Radio Free Pennsylvania.

Radio Garbanzo, 6955 at 0208 to 0234 with a program dedicated to WREC. (Silvi, OH)

Blind Faith Radio, 6955 USB at 1624-1633 with music, IDs as "Blind Faith Radio" and suggestion that reports be sent to *Pop Comm* and *MT*. (Silvi, OH)

WRYT, 6955 USB monitored at 1940 ending a program and closing at 1941. The announcer was "Dirty White Boy." (Silvi, OH)

Radio Nonsense, 6955 USB at 0430 in a conversation with several other pirate operators, then on with programming at 0518 with "commercials" including a put-down of the postal service, urging people not to use zip codes. Also Spike Jones'

"Cocktails For Two." Announcer was Jo Mamma. U.S. mail (P.O. Box 1, Belfast, NY 14711) and E-mail addresses given, but not copied well, as the signal was extremely noisy by this time. Sign-off occurred at 0550, after which about eight other pirates came on with comments, and then another signed on the air but couldn't get ID'd due to the noise. (Charles Calhoun, Texas) Station was heard at 0110 with the usual good show. (Silvi, OH)

Radio Mysterioso, 6955 USB with a broadcast in Spanish to sign-off at 0537. (Calhoun, Texas) (This could be the same station Tim Taylor reported as an unidentified — not included here because no time was mentioned).

Jerry Rigged Radio, 6955 heard at 0141 but then jumped around, showing up on six different frequencies by 0223 and all of them heard here. Also at 2330 with a couple of songs, and ID, and then off. (Silvi, OH)

RFM, 6955 at 0236 with Christmas parodies and music. (Silvi, OH)

Radio Eclipse, 6955 USB heard at

(Continued on page 77)

The book you've been waiting for...



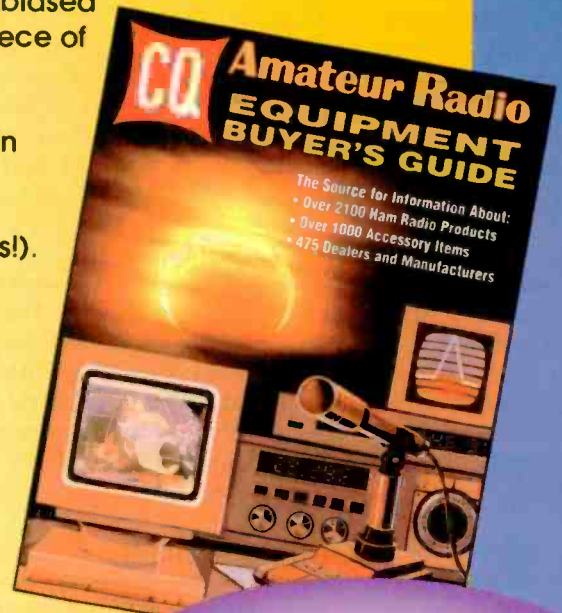
Amateur Radio Equipment Buyer's GUIDE

This information-packed book is your most reliable, unbiased source for detailed information on practically every piece of Amateur Radio equipment and every accessory item currently offered for sale in the United States. From the biggest HF transceiver to Ham computer software, it's in the CQ Amateur Radio Equipment Buyer's Guide, complete with specs and prices. There are over 2100 product listings (3100 including transceiver accessories!).

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Product Spotlight

POP'COMM REVIEWS PRODUCTS OF INTEREST

AirNav, The Aircraft Tracking Software For Windows

Listening to aircraft communications, especially international flights on the HF band, is a big part of the utility station umbrella and is a popular hobby in its own for the aviation enthusiast. So when a new software program that tracks aircraft in real-time came into *Pop'Comm* for review, they wanted me to have a go at it.

The program is called AirNav (Version 2.10) by Andre Brandao. It permits you to track aircraft flying anywhere they can be heard around the globe in real-time and displays the aircraft's location on maps. AirNav also permits you to maintain a database of every aircraft heard or seen, combining HF, VHF, ACARS, and visual spotting.

System Requirements

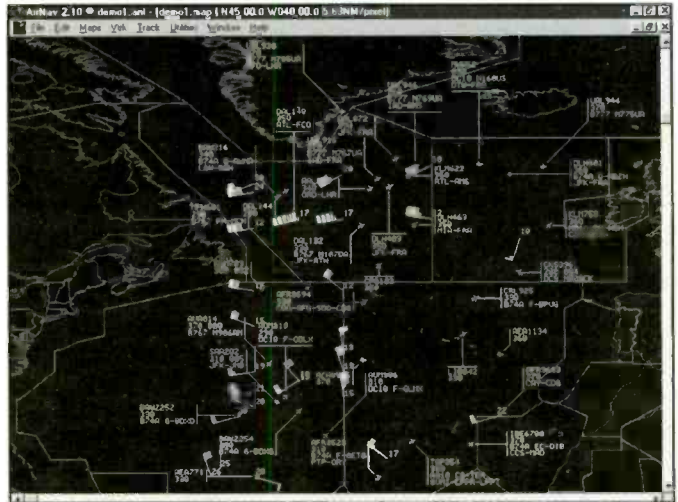
AirNav 2.10 requires Windows 3.xx, 95 or 98. The program also requires 15 to 18 MB of hard drive space and needs a CPU of 386/25 or greater with at least 4 megs of RAM to run. Installation can be accomplished by downloading the program directly from the AirNav Web site at <<http://www.fly.to/airnav>> or by ordering installation disks. Either way, installation was straightforward and easy.

Getting Started

On first starting the program, one has the option of starting off with a choice of four demos. Demos are for you to learn how to work with AirNav, and they illustrate and explain almost all of the program features. Demo 1 (North Atlantic) covers understanding how to insert data using "Terminal Mode" and "Flight Management Mode," basic drawing features, and aircraft label orientation and size. Demo 2 (Africa) covers map creation features, Multi Window Tracking, All Heard Management, and the Utilities Menu. Demo 3 (South Atlantic) covers working with the Vertical Tracking Feature. Demo 4 (South America) covers preferences, using Active Frequency, and the export to .txt option. The demos are very useful and are recommended, as AirNav has many good features.

Once you have an understanding of the program from the demos, you're ready to open the desired map window and start. As you log flights calling in, you can either type the data directly onto the main terminal entry screen or you can add flights via the Flight Management Mode. Data can include the aircraft call-sign and flight number, altitude, position by latitude and longitude or waypoint, along with next estimated positions, fuel status, selcal, weather, speed, and comments. The Active Frequency box avoids the repetition of having to type in the frequency each time, if the frequency remains the same. As each flight is entered, an aircraft appears on your map and begins following the route you entered. A label indicates the flight number and altitude. The label can also display the aircraft type and registration, if the registration or selcal is known. The program also features resizable labels, so they can be re-sized to avoid label overlap.

As the flights are entered for tracking, they are entered at the



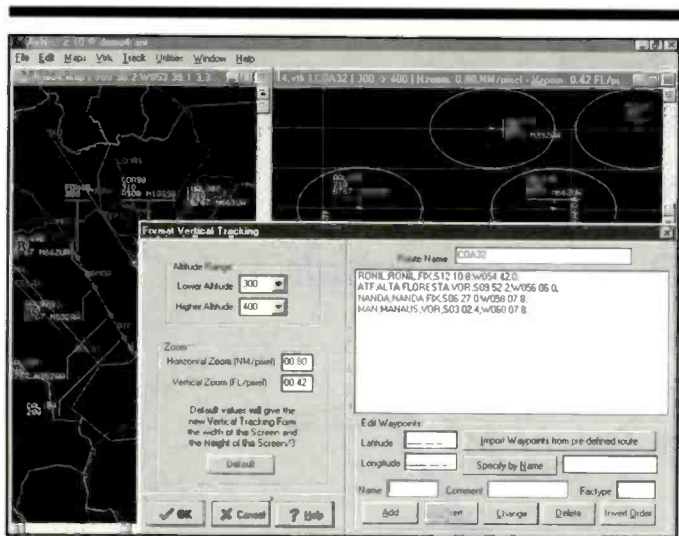
The North Atlantic becomes a very busy place as flights are tracked by AirNav.

same time into the "All Heard" database. The program looks for matches to known flight routes and selcals and automatically checks and updates the information. The user can also add any visually observed flights or import ACARS logs. The ACARS import feature can import any ACARS logs files that use the "Airmaster" format, or directly from the well-known ACARS program. The All Heard database can also be searched for matching data.

Other provided databases within the Database Explorer include: Waypoints (32,000 by name, type, and location), Pre-Defined Routes (gives route ID and positions): Aircraft (by selcal, provides registration, aircraft type, and airline): Airlines (provides three-letter/two-letter airline codes and radio callsign): Airport (gives ICAO 4-letter ID's, IATA 3-letter ID's, and country); and Flight Number (provides flight number and route). Each of these is fully searchable and editable by any of the fields and greatly enhances the information available to the listener in an easy format. The database seems to use a Delphi created front-end and is in Dbase/Paradox format. My only problem was a lack of a "walk through" set of instructions for adding new records. It took a few tries and trial and error to add a new waypoint, since I was not familiar with this type of database. However, once mastered, the logging and database process comes very easy. Searching and sorting your logs is an easy way to check flights for tie-ups. Logs can also be exported as a text file.

Other Features

AirNav 2.10 features multi-window tracking ability. Every window is resizable and you can open as many maps/ tracking windows as you want. For example, you may want to have a North Atlantic map, a North African map, and a Caribbean map open and tracking at the same time. There are seven ways to cre-



Flight tracking is shown in the left window and Vertical Tracking in the right window of AirNav.

ate a map, and any map may be user-defined. It is also possible to draw ATC/airspace boundaries, weather, waypoint routes, and more. The program also permits 1,000 flights to be tracked at one time and up to 50 waypoints can be logged per flight.

The AirNav program provides automatic estimation of flight waypoints and times. Usually, aircraft will provide a current location, the next waypoint location and estimated time, and then what their next waypoint will be. When AirNav tracks the aircraft to within five minutes of the last waypoint, the flight label turns red and an alarm sounds so that you can pay full attention to the radio for the next three segments.

Vertical Tracking permits the user to track flights by altitude organization, by any route. Then, the Security Circle feature warns the user of any near misses, or aircraft that come closer than the minimum horizontal and vertical separation distances!

There are more than 80 user preferences that can be set, so you may make the program work as you like. The program also permits the selection of three associated programs: a text editor, an Internet browser, and an image editor. All in all, it's quite a ride!

If you have Internet access and download the program, it is a disabled full-featured program that runs only for 30 minutes at a time. By using the online registration, you can have the full-featured version activated within 12 hours. A registration code is sent to you by E-mail. There are also free AirNav Data and Map files on the AirNav site. Help files are available in several languages and maps include areas all over the world.

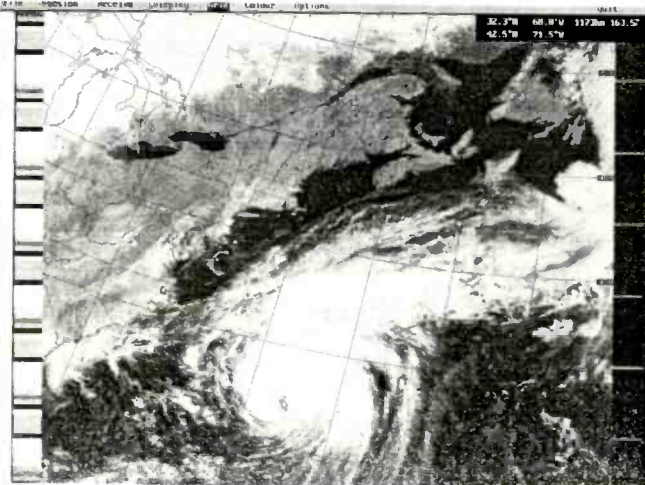
For those without Internet access, the program may be ordered in a four-disk set from RegSoft, 6595-G Roswell Rd., Suite 732, Atlanta, GA 30328 USA Tel or FAX: 888-REGIT-80 or 770-497-9126 (for international orders).

The AirNav program cost is U.S. \$60 complete, whether you order it on the Internet or via RegSoft.

For further information, check the AirNav Web site or contact the author by surface mail: AirNav, Rua Agostinho Neto, Lote 11, 2C, Quinta do Lambert, 1750 Lisbon, Portugal.

I found the program addicting and adding to my enjoyment of tracking aircraft. It does so much more than a paper log! It saves and prints logs, provides data, helps with tie-ups of aircraft, provides ID's for companies of aircraft that you hear calling in; gives registrations, aircraft type, routes and selcals; provides insight into how international aviation is accomplished every day and night, AND it displays aircraft as they move across the sky, in addition to a few other tricks. I think you'll like it. ■

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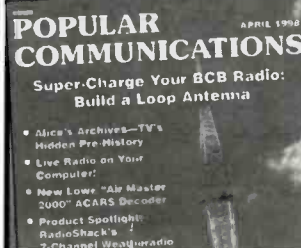


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BY BOB EVANS

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OOOI Events And "Q" Message Labels

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Here, U.S. Air flight 260 has landed at Atlanta (ATL) at 2301 UTC.

QD — In/Fuel Report

.N795N QD 4 4033 P10252
ATL224000972/CA 01

Piedmont flight 252 arrived at the Atlanta gate at 2240 UTC with 9,700 pounds of fuel onboard. The Captain/First Officer Identifier (2) indicates the copilot (FO) landed the airplane. If the captain landed the plane, the value would be "1."

.N557AN QD 7 3349 AA1988
ATL033300701OS ATL/OPN0037

In this variation of the QD message label, American Airlines flight 1988 arrived at the Atlanta gate at 0333 UTC with 7,000 pounds of fuel on board. The Captain (1) landed the airplane. The "Free Talk" portion of the message indicates Other Supplementary (OS) information — the doors were opened in Atlanta at 0037 UTC.

QE — Out/Fuel/Destination Report

.N717AA QE 9 3607 AA1791
ATL1735 0318MIAOS
MIA/AHM7792D/LIF

American Airlines flight 1791 left the gate at Atlanta at 1735 UTC with 31,800 pounds of fuel onboard. Flight destination is Miami (MIA). Other Supplementary (OS) information Miami — APU

Hour Meter (AHM) reading = 7729D (Hexadecimal format) and no Load Information (LIF) given. (The AHM reading is used to schedule aircraft maintenance requirements).

.N942VJ QE 0 0653
US1146ATL1102 0193PIT/DC 1101

U.S. Airlines flight 1146 left the gate in Atlanta at 1102 UTC with 19,300 pounds of fuel onboard. Flight destination is Pittsburgh (PIT). The aircraft received Departure Clearance (DC) at 1101 UTC.

QF — Off/Destination Report

.N795N QF 8 4000 P10530
ATL2340CLT/FP 035/CO 59659/FO
61212/A1 74169/A2 72151/A3 70258

Here, Piedmont flight 430 took off from Atlanta at 2340 UTC bound for Charlotte (CLT). The employee serial numbers of the Commanding Officer/Captain (CO), First Officer (FO), and three Flight Attendants (A1, A2, & A3) are given.

.N828US QF 9 2431 US0359
BUF1224CLT/FP 126/CO 28860/FO
56130/A1 10002/A2 65812/A3
58230/A4 11410

QG — Out/Return In Report

.N1458H QG 1 2022 AA0452
ATL11141120

The OOOI "Q" Labels

Downlink Message Labels QA through QM are used to record standard OOOI events. Here's an example:

QA — Out/Fuel Report

.N9017U QA 4020 UA0267
ATL0440021440225

In the above example, United Airlines flight has departed Atlanta (ATL), the time it left the gate was 0440 UTC, with 02144 pounds of fuel boarded for a total of 22,100 pounds.

QB — Off Report

.N9030U QB 3646 UA0560
ATL1033

And in this example, the United Airlines flight has departed Atlanta (ATL) with a "wheels up" time of 1033 UTC.

QC — On Report

.N857US QC 9 0114 US0260
ATL2301

This is a message from an aircraft that has left the gate, but for some reason has returned back to the gate. American Airlines flight 452 left the gate at 1114 UTC and returned in at 1120 UTC.

QH — Out Report

.N235WA QH 1236 WA1121
ATL2312

Flight WA1121 left the gate at Atlanta at 2312 UTC.

QK — Landing Report

.N47332 QK 4 4318 CO0377
ATL0043EWR1017

Continental Airlines flight 377 landed at Atlanta at 0043 UTC. The flight originated in Newark (EWR) and took off at 1017 UTC.

QL — Arrival Report

.N73243 QL 3 5810 CO0530
ATL225800721CLE0

Continental Airlines flight 530 arrived

at the gate in Atlanta at 2258 UTC with 7,200 pounds of fuel onboard. The Captain landed the aircraft. (See Message Label QD.) The flight originated in Cleveland (CLE) and the Category of Landing Code = 0.

QM — Arrival Information Report

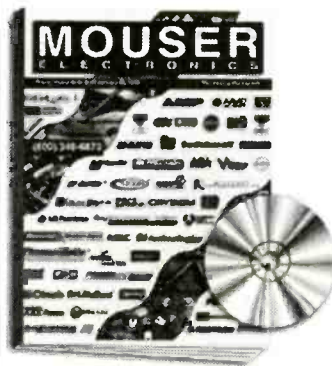
.N73243 QM 4 5826
CO0530ATL01122CLE10000

Continental Airlines flight 530 arrived at the gate in Atlanta at 0112 UTC with 11,200 pounds of fuel onboard. The First Officer landed the aircraft. (See Message Label QD.) The flight originated in Cleveland (CLE) at 1000 UTC and the Category of Landing Code = 0.

What Are You Monitoring?

What ACARS messages are you decoding? Any interesting traffic you'd like to share with our readers? Send along your intercepts to me at *Popular Communications*, 25 Newbridge Road, Hicksville, NY 11801 or via E-mail to me at <Reevans@interlog.com>. Happy holidays! See you in February.

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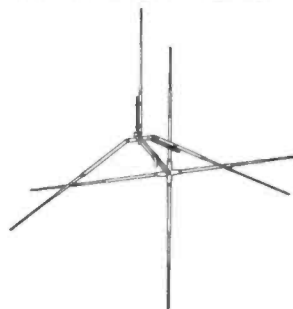
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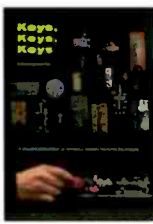


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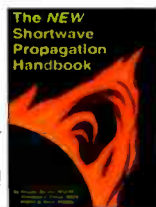


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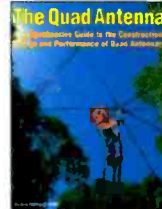


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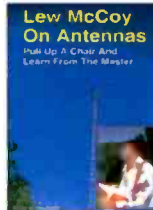


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The Computer Corner

BY ED GRIFFIN

<griffened@sprynet.com>

RECEIVER CONTROL, SOFTWARE AND MORE

A Wireless Wonder, and Remote Radio

Wow, almost another year is gone, and it's time to reflect on 1998, and think about what the New Year will bring. I don't know if it holds true for you, but for me it seems like the time is flying past. I guess we can blame it on the Internet, El Niño, or both. They seem to be the most suggested causes of bad things these days.

Wireless Wonder

One of the things I've begun using this past year is a combination of both radio and computers called Ricochet. Ricochet is a wireless network, modem, and Internet service that's available in some major metropolitan areas. A network of small stand-alone transceivers are mounted on utility poles about every mile, and the packet data is forwarded along to either a user's portable radio modem, or to a wired access point. The wired access point is a connection into Ricochet's network IP backbone, through which access to their mail, news, and Web servers is possible. Data going to the Internet also takes this route, before exiting through a gateway. It uses the license free 902-908 MHz band, which it divides into 163 hopping channels that are 160 kHz wide. The power output is limited to one watt. These radios are FCC Part 15 devices, and employ a Gaussian Frequency Shift Keying (FSK) modulation scheme for baseband modulation. The network also supports RSA encryption. I wouldn't plan on being able to monitor these Pseudo-random, spread-spectrum, frequency hopping transmissions with any scanner.

You are allowed unlimited Internet service while in the coverage area. Most folks that I know with the service leave their computers connected all of the time whenever possible. I've also got a Velcro attachment for my notebook so that when I'm on the move, I don't have to hunt for a telephone connection in order to check E-mail or the Web. Software is available for Windows, Mac, and many PDA systems. Once you purchase the radio modem, you pay for your monthly service, just like an ISP.



I like being able to stay connected all of the time without tying up a telephone line, or worrying about staying connected longer than an ISP might like. The speed of the wireless connection is approximately that of a 28.8-33.6 Kbps modem connection. Service is currently available in the San Francisco Bay, Seattle, and Washington, DC metropolitan areas, as well as select airports and hotels. They are working on expanding

coverage to Atlanta, Boston, Chicago, Dallas, Denver, Houston, Los Angeles, New York, Phoenix, Philadelphia, and San Diego. Check out the Ricochet Webpage at <<http://www.ricochet.net>> for more information.

Remote Radio

The ability to use the Internet to relay the audio from your radios at home, to

Radio URLs

FCC certification info	< http://gulfoss.fcc.gov/cgi-bin/ws.exe/prod/oe/forms/reports/Search_Form.htm >
US NOTAM info	< http://www.notams.jcs.mil/milhome.html >
Popular Communications FRS/GMRS site	< http://www.popcomm.com >
GPS SA graph	< http://dougweb.com/gmrs/index.html >
Map by address	< http://satnav.atc.ll.mit.edu/gps/images/gps-scat.gif >
NTSB crash db	< http://www.mapblast.com >
IRC chat info	< http://www.nts.gov/Aviation/months.htm >
RadioShack radio manuals	< http://www.irc-chat.com >
All In One search	< http://www.radioshack.com/Support >
PCR1000 resources	< http://www.albany.net/allinone >
MUF Map	< http://hoth.gen.ou.edu/~jahern/home/pcr1000/ >
Trunked Radio forum	< http://solar.uleth.ca/solar/www/realtime.html >
	< http://electricrates.com/trforum/trboard.htm >

your PC at work, or any other location with Internet access is made possible by at least two software programs. The first one is Radio Destiny, which is available at <<http://www.dice.net>>. There are two Windows only applications, one of which is the Radio Station and it is used on the PC broadcasting the audio, and the other is the Radio, which is used on any PC that wants to listen to audio being broadcast from a Radio Destiny Station. If you ask, "How do I know what is being broadcast and how do I connect to it after installing the Radio?", the answer is found in the listings on the Directory of Stations Web page at their site. I like the fact that both the Radio and Radio Station are small programs that are quick and easy to download and install.

If you have something other than a PC running Windows, or have used the RealPlayer, you may want to use the Real Encoder and Real Server, all of which are at <<http://www.real.com>>. The benefit is multi-platform support and additional features, but they are larger, require additional resources, and more time to configure. I have tried both Radio Destiny and the software from Real Networks and have been pleased with their performance. You should keep in mind that, depending on the encoding rate, the power of your system, and the speed of your connections to the Internet, your mileage may vary!

New Today, Old Tomorrow?

Have you heard about the PC99 specification? It's a new standard backed by Microsoft and Intel that, if adopted, will change the technology of new computers, and may make finding software and hardware for older systems more difficult over time.

One of the things that PC99 eliminates is ISA cards. The Industry Standard Architecture dates back to the original PC, and in recent years has been replaced by faster and more capable bus designs offering higher performance and ease of configuration. Most systems have still retained some ISA connectors, commonly sharing a slot that can have either an ISA or PCI, but not both installed. This is called a shared slot.

Folks wanting faster performance out of their PCs should consider the additional cost associated with using PCI cards whenever possible. The new spec also mandates a minimum processor

speed of 300 MHz, using a Celeron class processor with at least a 128 Kb level two cache, and 32 Mb of RAM for home systems and 64 Mb for office systems. There's also advanced power control features and a recommendation to use DVD drives and AGP graphics. Systems meeting or exceeding these marks will have a label on the box and in advertisements, similar to the Designed for Microsoft Windows logos that currently appear on software and hardware. The details are

at <<http://www.microsoft.com/hwdev/pc99.htm>>.

Lastly a typo correction from the August column. The BAYSCAN forum URL should have been <<http://www.ipn.net/bayscanforum.htm>>.

That's it for this column, but it's not too late to share one of your favorite URLs or just some random thoughts with me by writing to the Pop Comm HQ's snail mail address, or sending me E-mail at <griffined@sprynet.com>. ■



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Many CB antennas lose more than 50% of the power put into them. The power is wasted as heat loss in the plastic inside the coil form and not radiated as radio waves.

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In order to handle higher power for amateur use, we used the more efficient direct coupling method of matching, rather than the lossy capacitor coupling. With this method the Wilson 1000 will handle 3000 watts of power.

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So far you have read about why the Wilson 1000 performs better, but it is also one of the most rugged antennas you can buy. It is made from high impact thermoplastics with ultraviolet protection. The threaded body mount and coil threads are stainless steel; the whip is tapered 17-7 ph. stainless steel. All of these reasons are why it is the best CB antenna on the market today, and we guarantee to you that it will outperform any CB antenna (K40, Formula 1, you name it) or your money back!

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Ref: Rye Canyon Antenna Lab File #670529

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FREQUENCY (MHZ)	RELATIVE GAIN (dB)	RELATIVE POWER GAIN (%)
26.965	1.30	35
27.015	1.30	35
27.065	1.45	40
27.115	1.60	45
27.165	1.50	41
27.215	1.80	45
27.265	1.75	50
27.315	1.95	57
27.365	2.00	65*
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The Listening Post

BY GERRY L. DEXTER



WHAT'S HAPPENING: INTERNATIONAL SHORTWAVE BROADCASTING BANDS

Weiner's WBCQ Takes To The Air, And Upgrading Radio Austria International . . .

The newest U.S. shortwave broadcaster is now on the air. At this writing, ex-pirate Alan Weiner's **WBCQ** was undergoing initial tests on **7415**, so by now, it should be rolling along with a regular schedule. Weiner plans to make a lot of "block" time available to various groups and organizations, including pirate broadcasters, so we'll probably hear some interesting, if not entertaining programming. You should be able to easily hear the station during the evening hours (it's scheduled on that frequency from 2200 to 0600) and uses the slogan, "The Planet." The address for reception reports is 97 High Street, Kennebunk, ME 04043.

Meantime, **WWBS** in Macon, Georgia has yet to be heard, even though it has a multi-month head start over **WBCQ**. **WWBS** will start out on **11910** (or 11905) and will provide its audience with mostly religious programming.

There's one less German voice on shortwave now, with the merging of two of the non-DW broadcasters. **Sudwestfunk** (SWF on 7285) and **Suddeutscher Rundfunk** (SDR on 6030) have combined to become **Sudwestrundfunk**. It's not clear which of the two frequencies will be used.

Possibly both will, or perhaps neither will. Stay tuned.

Unlike some governments, the Austrian government has provided the necessary funds for **Radio Austria International** to make some upgrades in its facilities. The main transmitter site at Moosbrunn is to be modernized, and at least one 100-kW transmitter will be added to those now in use.

Radio Asia Canada, which began last January as an independently produced program mostly in the Tamil language, now plans to expand its broadcasts to include several other languages, among them Russian, German, Spanish, and French. The producers say they want to represent Canada to the world and reportedly have recently changed their name to the "**Radio Voice of Canada**." The broadcasts are aired over Germany's Deutsche Telekom facility in Jülich and are currently scheduled from 1800–2000 on **17530**, 2000–2200 on **15560**, 2200–0000 on **11975**, 0000–0200 on **9560**, 0200–0400 on **9405** (or 9885). It's likely, however, that some changes will have been made by the time you read this. The language expansion hasn't taken place as of this writing so all broadcasts are still

in Tamil, except for the 2000–2200 block, which is in English. The address is 680 Progress Ave., Unit 1, Toronto, Ontario M1H1M3A5, Canada.

Argentina's **Radio Nacional** (as opposed to **RAE**) is back on shortwave operating on **6060** daily from 0900 to 1200, Saturdays and Sundays 0900 to 0400, with all programming in Spanish.

Remember that we always welcome your informational input! Log reports should be listed by country, double-spaced between items, and tagged with your last name and state abbreviation. Besides reports on what you're hearing, we always need info about station address changes or QSL policies. And we especially need illustrative material, such as photos of shortwave stations or personalities, photos of you and your shack (or, if you're the shy type, of just your shack), spare/sample QSL cards, station brochures, schedules and any other informative or illustrative items you care to part with. Thanks so much for your continued interest and support. It is very much appreciated!

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



BRT in Belgium was issuing this QSL a while back. Thanks to Jeff Muska, New Jersey.



Now's a good time to tune in the Voice of Russia and keep up with all the uncertainty going on there — from their financial crisis to government instability.



Colorful station pennants and QSL cards adorn the wall in the shack of Elmore Wray, in Ontario, Canada.

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.

ALBANIA — Radio Albania, on **6220** heard at 0135 with news. (Delfratte, PA) **7270** at 0000 in Albanian. (Ziegner, MA)

ALGERIA — Radio Algeria Int'l, **15160** at 1956 with ID in EE at 2000. (Ziegner, MA)

ANTIGUA — BBC World Service, **5975** at 0300 with news. (Jeffery, NY)

ARGENTINA — RAE, **11710** heard at 0333 with musical selections in SS. (Miller, WA)

AUSTRALIA — Radio Australia, **5995** heard at 1419 with music. (Miller, WA) **21740** at 0107 with "Oz Sounds." (Jeffery, NY)

AUSTRIA — Radio Austria Int'l, **6015** (via Canada, editor) at 0459 in GG. (Miller, WA)

AZERBAIJAN — Azerbaijani Radio, **15238.3** at 1730 to 1800 in Turkish or Azeri with a discussion and music. (Ziegner, MA)

BRAZIL — Radio Verdes Florestas, **4865** monitored at 0235 with talk, ID, announcements, ballads, possible prayer, more announcements, all in PP. Off at 0257. (Paszkievicz, WI)

Radio Nacional Brasilia, **11765** in PP at 0428 and **15445** at 1302. (Miller, WA) Radio Nacional Amazonia, **11780** in PP heard at 0035. (Miller, WA)

BULGARIA — Radio Bulgaria, **11720** heard at 2101. (Miller, WA) 2345 and 0258. (Delfratte, PA)

CANADA — CFRX relaying CFRB, **6070** at 1230. (Northrup, MO) Radio Canada Int'l, **13670** at 2201, "The World at Six This Weekend." (Jeffery, NY) BBC via Canada, **9515** at 1301 and **15220** at 1533. (Jeffery, NY)

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CHINA — China Radio International, **9690** via Spain monitored at 0300 with IS, ID, news. (Jeffery, NY)

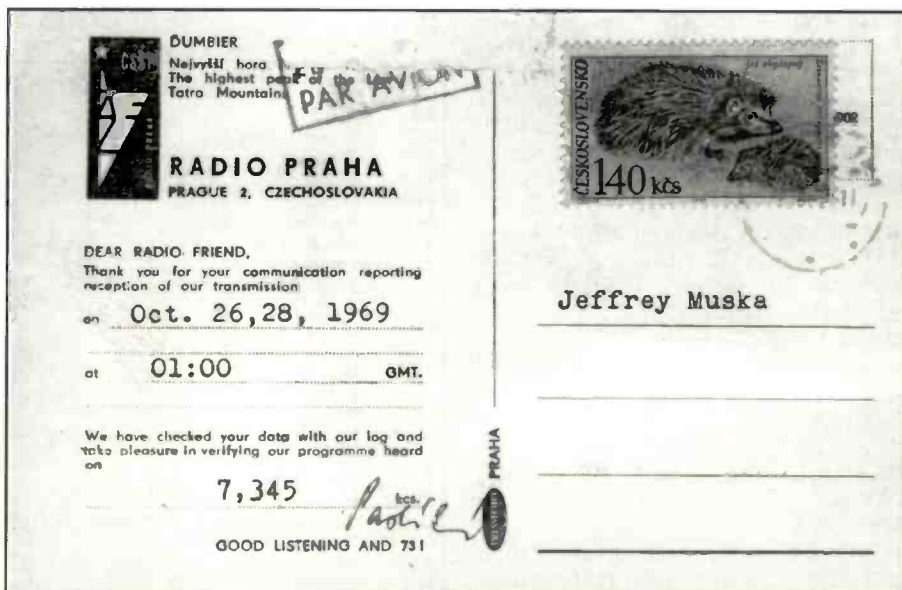
COLOMBIA — Radio Nacional, **4955** in SS heard at 0452. (Miller, WA) Caracol Colombia, **5076** at 1026 with news in SS. (Miller, WA)

COSTA RICA — Radio Reloj, **4832** at 1040 in SS with music. (Miller, WA) RFPI, **10500**

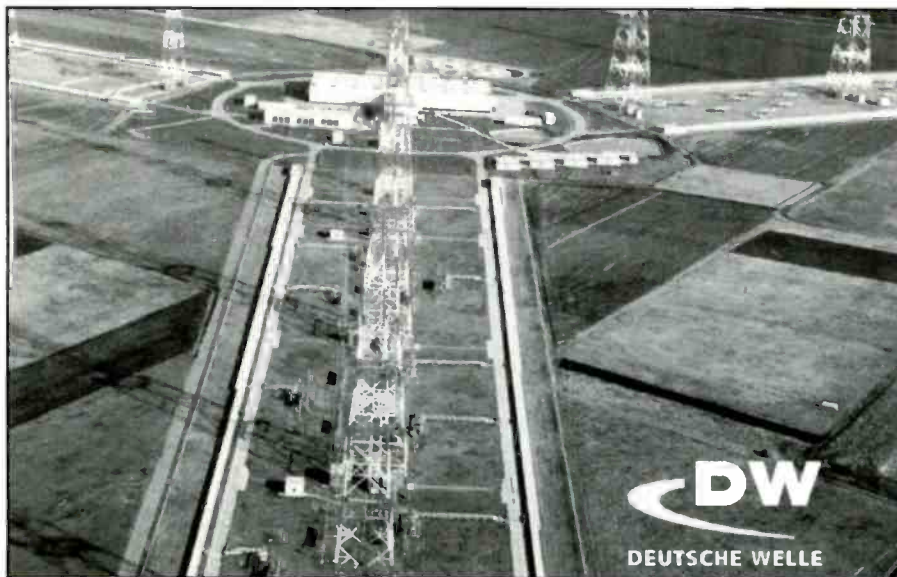
monitored at 0130 and **21460** heard at 1816. (Jeffery, NY)

CUBA — Radio Havana Cuba, **9820** monitored at 0152 with "DXers Unlimited." (Delfratte, PA)

CZECHOSLOVAKIA — Radio Prague, **9435** at 0300 with ID "This is Radio Prague, the external service of the Czech Republic." (Miller, WA)



Radio Prague sent this QSL to Jeff Muska for his reception report in 1969!



This QSL card from the Voice of Germany shows one of Deutsche Welle's large transmitting plants. (Thanks Jeff Muska)

DENMARK — Radio Denmark via Norway, **15340** heard at 1630 with news in Danish. (Miller, WA)

ECUADOR — Radio Quito, **4919** at 1058 with music and news in SS. (Miller, WA) HCJB, **11960** in Russian at 0523; **15140** in SS at 0212, **17735** in EE at 1910 and **21470** in GG at 2111. (Jeffery, NY)

EGYPT — Radio Cairo. **17767** monitored at 2020. (Delfratte, PA)

ENGLAND — **9740** at 1311 with world news. (Miller, WA)

FINLAND — YLE Radio Finland, **11755** at 1735 in Finnish; **11900** at 0205 in EE and **15400** at 1421 in Finnish. (Miller, WA)

GABON — Africa Number One, **9580** at 0558 with news in FF. (Miller, WA) **15475** at 1755 carrying Senegal Internationale broadcast in FF. At 1800 Gabon broadcast in FF. (Ziegner, MA)

GERMANY — Deutsche Welle. **9615** with "Newslink." (Miller, WA) (Perhaps via Portugal, editor) **15275** monitored at 2154 in GG with music, comedy sketch, ID. (Jeffery, NY)

GREECE — Voice of Greece, **11645** at 0150 with talk on geographical sites in the region. (Delfratte, PA) **11730** at 1239 and **17765** monitored at 2150, both in Greek. (Miller, WA)

GUAM — KSDA — Adventist World Radio, **15225** at 1147 in CC with talk. At 1154 was overpowered by co-channel interference from an unidentified station. (Jeffery, NY)

GUINEA — Radio Guinea, **7125** at 2300 in FF with voices over calypso-type music. (Ziegner, MA)

GUATEMALA — Radio Tezulutlan, **4835** at 0410 in SS with religious music. (Miller, WA)

HONDURAS — La Voz Evangelica, **4819** monitored at 1036 in SS with music. (Miller, WA)

HUNGARY — Radio Budapest, **9840** at 0257. Sign-off at 0258. Also **11910** at 0245 with news. (Miller, WA) **11700** at 2101 to 2128 close with EE to Europe. (Silvi, OH)

INDIA — All India Radio, **10330** heard at 1443 in Hindi; **11620** monitored at 1427 in EE and **15075** at 1528 in unidentified language. (Miller, WA)

INDONESIA — Radio Republik Indonesia, Ujung Pandang at 1032 in II. (Miller, WA) RRI Jakarta, **11885** at 2350 with Indonesian music. (Delfratte, PA)

IRAN — VOIRI, **9022/9865** at 0031 to 0127 close. Very good on **9685** and better than station's usual audio on **9022**. If 6050 was on this night, it was inaudible due to interference. (Silvi, OH) **9022** at 0145. Just missed the English segment. (Delfratte, PA)

ISRAEL — Reshet Bet service, **11590** in HH at 0418. (Miller, WA) Kol Israel, **17535** at 1548 with news in EE. (Paszkievicz, WI)

ITALY — RAI, Roma II, **9660** at 0406 in Italian. (Miller, WA)

JAPAN — Radio Japan/NHK, **21670** at 0155. (Hill, ID)

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

KENYA — Adventist World Radio/Voice of Hope, **9745** at 2037 with talks and request for letters to the Nairobi, Kenya address. (Ziegner, MA)

KIRIBATI — Radio Kiribati, **9810** at 0532 in unidentified language. Polynesian music and EE announcement at 0600. (Miller, WA)

KUWAIT — Radio Kuwait, **11675** in AA at 0255. (Delfratte, PA) **15110** with prayers at 1535. (Miller, WA)

LEBANON — Voice of Hope QSL received in about two months for a report to the address in Israel given in *Passport to World Band Radio*. (Silvi, OH)

LIBYA — Radio Jamahiriya, **15235** at 1845 in AA. (Delfratte, PA) **15435** in AA at 2005. (Miller, WA) 0240. (Hill, ID)

LITHUANIA — Radio Vilnius, **9855** monitored at 0030 with several IDs, news. (Delfratte, PA)

MALAYSIA — Radio Malaysia, Kajang, **4845** at 1041 in unidentified language. Also RM — Sarawak on **4895** heard at 1045, also unidentified language. (Miller, WA)

MEXICO — Radio Educacion, **6185** in SS at 1038. (Miller, WA)

MOROCCO — RTV Marocaine, **11920** at 0234 in AA. (Miller, WA)

NETHERLANDS — Radio Netherlands, **9890** monitored at 1432 UTC with news. (Miller, WA)

NETHERLANDS ANTILLES — Radio Netherlands via Bonaire, **9845** with ID at 0031. (Hill, ID) **17605** at 2000 with "Weekend." (Jeffery, NY)

NEW ZEALAND — Radio New Zealand Int'l, **6100** at 1032 with news and **17675** at 1845 with classical music. (Miller, WA) **17675** at 0215 with "In Touch With New Zealand." (Jeffery, NY)

NIGERIA — Voice of Nigeria, **15120** at 1600 with sports, marriage bureaus, rap. (Ziegner, MA) 2043 with commentary. (Miller, WA)

NORWAY — Radio Norway, **9590** at 0601 with "Norway Now." Also **15340** at 1600 in NN. (Miller, WA)

PAKISTAN — Radio Pakistan, **11570** at 1600-1630 with talk about guided missiles. (Ziegner, MA) **15485.3** at 0135 in listed Urdu, singing, mention of Pakistan, Typewriter Song, ID, and time pips. (Paszkievicz, WI)

PAPUA, NEW GUINEA — NBC, Port Moresby **4890**, monitored at 1248 in EE. (Miller, WA)

PARAGUAY — Radio Nacional, **9735** at 0130 in SS. (Miller, WA)

PERU — Radio Sateelite, Santa Cruz, **6725** at 0203 in SS with live sports coverage. (Jeffery, NY) Radio Tropical, Tarapoto, **4935** in SS monitored at 1058. (Miller, WA)

PHILIPPINES — Radio Pilipinas, **11720** at 1732, presumed news in Tagalog. (Miller, WA) Radio Veritas Asia, **9660** at 1427 with announcement in EE, then into RR. (Miller, WA) Voice of America relay, **15160** at 1157 with news. (Jeffery, NY)

QATAR — Qatar Broadcasting Service, **11785** in AA at 1448 to 2124 with news, music, and variety. (Ziegner, MA)

**GENERAL SERVICE
ENGLISH PROGRAM (April '98 ~ March '99)**

UTC	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
15*	15	News		News			
6	25	Asian Top News		Asian Top News		Asia Weekly	Hello from Tokyo
11		Music Reflections	Enjoy Japanese	Music Reflections	My Japan Diary	Music Beat	
21*	15	News		News			
	25	Asian Top News		Asian Top News		Hello from Tokyo	Asia Weekly
		Music Reflections	Enjoy Japanese	Music Reflections	My Japan Diary	Music Beat	
3	15	News		News			
	25	Asian Top News		Asian Top News		Weekend Break	Hello from Tokyo
		Music Reflections	Enjoy Japanese	Music Reflections	My Japan Diary	Music Beat	
17*	15	News		News			
5		44 Minutes		44 Minutes		Hello from Tokyo	Weekend Break
10		News		News			
0*	15	44 Minutes		44 Minutes		Asia Weekly	Hello from Tokyo
1*	15	News		News			
		44 Minutes		44 Minutes		Weekend Break	Hello from Tokyo
14	15	News		News			
		44 Minutes		44 Minutes		Weekend Break	Asia Weekly

Radio Japan/NHK's English program line-up.

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**ATTENTION WOULD-BE
COVER MODELS**

CQ's roaming Staff Photographer Larry Mulvehill, WB2ZPI, is currently in the early planning stages of his next photo tour. He will be visiting several areas throughout the USA, Canada, and possibly Mexico shooting cover photos for CQ, CQ VHF, and Popular Communications for use over the next year. In addition, Larry will be shooting photos for the CQ Year 2000 Amateur Radio calendar. If you have, or know of, a particularly photogenic shack, QTH, dispatch center, broadcast station, or antenna system, get in touch with Larry at <CQFOTOG@aol.com> with the details. Who knows... it could be your face smiling back at you from the cover of one of the CQ Communications magazines. Our magazines are read in 146 countries throughout the world. You could be famous!

RUSSIA — Radio Rossi, 13705 from 1626 to presumed sign-off at 1800. Male and female announcers in RR with songs in between, many "Radio Rossi" IDs. (Silvi, OH) Voice of Russia, Novosibirsk, 11845 in RR at 0229. (Miller, WA) Radio Netherlands, via Khabarovsk, 17580, in Dutch from 0010 to 0025 close. Mentions of satellite, recap of news, ID, mention broadcast to Indonesia, national anthem. (Paszkiwicz, WI)
SINGAPORE — BBC relay, 15360 at 0214 with "Newsday." (Jeffery, NY)
SOLOMON ISLANDS — Solomon Islands Broadcasting Corp., 5020 monitored at 1120. (Miller, WA)
SOUTH AFRICA — Channel Africa, 11900 at 1453 with IS heard, but weak under Turkey. (Miller, WA)
SPAIN — Radio Exterior de Espana, 6055 with news at 0506. (Miller, WA)
SRI LANKA — Sri Lanka Broadcasting Corp., at 1613 in unidentified language. (Miller, WA) 11905
SWAZILAND — Trans World Radio, 4775 at 0413 in GG. (Miller, WA)
SWEDEN — Radio Sweden, 15240 at 1056 with news in Swedish. (Miller, WA) QSL received from Teracom for Radio Sweden tests on 17 MHz in April 1998. I also won one of the prizes for my reports — a beautiful Teracom T-shirt along with several other souvenirs. (Silvi, OH) (Congrats, Lee, Editor)
SWITZERLAND — Swiss Radio Int'l, 9575 at 1500 with EE news, IS, news in GG. (Miller, WA) 9885 at 0400 to 0430. (Wallesen, IL)
TAHITI — Radio Tahiti, 15170, 0323 in FF with discussion. (Miller, WA)

THAILAND — Radio Thailand, 9830 at 1422 with Thai geography, tourism, and sign-off at 1430. (Miller, WA)
TAIWAN — Radio Taipei Int'l, via WYFR 5950, at 0238. (Jeffery, NY) Broadcasting Corporation of China, 15125 at 1147 in CC. (Jeffery, NY)
TURKEY — Voice of Turkey, 9655 at 0252, co-channel with Radio Austria Int'l and 11895 at 1501 in TT. (Miller, WA)
UNITED ARAB EMIRATES — UAE Radio, Abu Dhabi 15265, monitored at 1531 in AA. (Miller, WA)
UNITED STATES — Armed Forces Radio, SSB relays, 4278.5 and 12689.5. The latter frequency was very audible every time I've tuned in. The former audible late afternoon until 0300 and presumed later. Many IDs. (Silvi, OH)
VIETNAM — Voice of Vietnam, 13705 at 0415. (Hill, ID) (Presume this is a relay via Russia? Editor)
YUGOSLAVIA — Radio Yugoslavia, 9580 monitored at 2059 with EE and sign-off. (Miller, WA)

That's it for this go. Jump up and cheer for the following "good guys" who did their thing for you this month:

Sheryl Paszkiwicz, Manitowoc, WI; Lee Silvi, Mentor, OH; Tom Delfratte, Sharpville, PA; Thomas Hill, Mountain Home, ID; Mike Miller, Issaquah, WA; Mark Northrup, Gladstone, MO; Elmer Wallesen, LaGrange Park, IL, and Tricia Ziegner, Westford, MA. Thanks to each of you!

Until next month, good listening! ■

Communications Confidential

YOUR GUIDE TO SHORTWAVE "UTILITY" STATIONS

Maritime AMVER Traffic

First, I want to wish everyone a happy and joyous holiday season. I sincerely appreciate everyone who took the time to contribute logs, photos, and information during 1998. Let's look forward to a Happy New Year with continued improved propagation in 1999! But without the many contributions folks send in, this would be a very short and boring column indeed. Secondly, a correction to my "Monitoring Military HF Communications" article in the October *Pop'Comm* (Page 8). EAM's start with a six-character alphanumeric string known as the "preamble" or "message header" which is read phonetically and repeated three times, with the message then sent in coded three-character groups: NOT in "coded six-character groups" as was mistakenly listed! Apparently a last minute revision I tried to make got the works gummed up. Also, Ronald S. Baxter correctly pointed out that RAF Benbecula is in Scotland. It is an island in the Outer Hebrides.

AMVER Traffic

AMVER (Automated Mutual Assistance Vessel Rescue) is a voluntary worldwide ship tracking and reporting system, which has been run by the U.S. Coast Guard for ocean-going vessels for over 40 years. By using AMVER, the USCG can determine the closest ship or ships to a vessel in distress. This means the number of ships that must respond is decreased, while releasing other ships from that task increases the effectiveness of the rescue effort. When the cruise ship *SS Achille Lauro* caught fire in the Indian Ocean in 1994, six participating AMVER ships responded and assisted in the rescue. AMVER ships have played a strong role in many of the SARs I have monitored over the years.

AMVER involves ships from more than 143 nations and enables rescue coordinators to plot the course and position of some 2,700 ships daily in every ocean of the world. These can be displayed on a computer screen at the AMVER Center located



The data floor of the USCG Operations System Center in Martinsburg, West Virginia which includes the AMVER Center (USCG Photo).

at Coast Guard Operations Systems Center in Martinsburg, West Virginia depicting their relative position to a vessel in distress. While participation in AMVER is mandatory for certain U.S. flag vessels (1,000 gross tons or more, operating in foreign commerce), other vessels, regardless of flag, origin, or destination that are 1,000 gross tons or larger and are on a voyage longer than 24 hours are welcome to participate. AMVER complements the Global Maritime Distress and Safety System, which uses the latest technologies, such as Electronic Position Indicating Radio Beacons (EPIRBs), Inmarsat satellite communications, and digital selective-calling technology.

Most utility monitors who have monitored the maritime bands have at one time or another heard ships sending AMVER messages. Vessels can be heard transmitting these reports on all three of the normal modes used in the HF bands: voice (USB), CW, and radio-teletype (SITOR-A or ARQ). Today, Sitor-A is used via most coast stations.

There are five types of AMVER reports: Sailing Plans, Departure, Arrival, Position, and Deviation reports. Each line in an AMVER report starts with a line identifier which is either the word AMVER or a single letter. The line identifier and the data items on the line are separated from each other by a single slash (/). Lines are terminated by a double slash (//). The first line of an AMVER

report identifies the type of report being sent: AMVER/SP// is the header for a sailing plan; AMVER/PR// is the header for a departure report, with or without sailing plan information and is also used for position report. AMVER/FR// is the header for an arrival report, while AMVER/DR// is the header for a deviation report.

Table 1 represents a sample AMVER message as might be sent by a ship (although I made up the latitudes and longitudes!). The header, AMVER line/PR// tells us the type of report as explained above. Line A/ is the vessels name and international callsign (required). Line B/ is the intended date/time of departure in UTC reported as a six-digit group with suffix Z (for Zulu still). The first two digits are day and month, while the last four digits are hours and minutes. The first three letters of the month may be added after the "Z." Line C/ is the ships present position. Line E/ is their current course (three-digit group). Line F/ is their estimated average speed in knots and tenths without the decimal, i.e., 11.5 knots. Line G/ is the ship's port of departure, latitude/longitude. Line I/ is their port of destination, latitude/longitude. Line K/ is the port name, latitude/longitude.

Line L/ is route information. The "L" lines contain most of the Sailing Plan information — as many as required can be used. Each line contains routing information to each of the intermediate points and destination. Data about all turn-points are required unless the voyage follows a great circle with no delays at waypoints. The following information is needed at each intermediate point: Navigation method (RL is rhumb line, GC is great circle)/leg speed in knots, latitude/longitude, date-time. Leg speed is optional. Line M/current coastal radio station guarded/next station guarded (if any). Line V/medical resources on board (MD for physician, PA for physicians assistant, NURSE, or NONE. Line X/up to 65 characters of amplifying comments. Line Z/EOR (End of Report) for computer processing of messages.

Each of the different types of reports

Table 1. AMVER Message Format

AMVER/PR//	
A/	OCEAN GOFER/P3PC2//
B/	011600Z//
C/	4242N/07200W//
E/	175//
F/	115//
G/	CHARLESTON/4470N/07780W//
I/	HOUSTON/3600N/08600W/031200Z//
L/	RL/150/4120N/06511W/021600Z//
M/	WLO//
V/	MD/NONE//
X/	NEXT REPORT 020800Z//
Z/	EOR

varies as to the optional or required lines. AMVER/SP// — Required lines: A, B, E, F, G, I, L, Z. Optional lines: M, V, X. Sailing plans may be sent within a few hours prior to, or after, departure. AMVER/PR// — Required lines: A, B, C, E, F, I, Z. Optional lines: M, and X. A position report must be sent within 24 hours of departure and subsequently at intervals not to exceed 48 hours, until arrival.

AMVER/FR// — Required lines: A, K, Z. Optional line: X. Arrival reports should be sent immediately prior to, or upon arrival at the port of destination. AMVER/DR// — Required lines: A, B, C, E, F, Z. Optional lines: I, L, M, X. Deviation reports are used to report changes to the Sailing Plan.

In addition to the term "AMVER," other countries have their own systems: Argentina — Safety of Navigation Communication Service (SECOSENA); Australia — Australian Ship Reporting System (AUSREP), run by AMSA (Australian Maritime Safety Authority); Brazil — Information System of Maritime Traffic Control (SISCONTRAM); Chile — Chilean Ship Reporting System (CHILREP); and Greenland — Greenland Ship Reporting Systems (GREENPOS & KYSTKONTROL). At one time or another, I have logged all of these reports. See what you can hear.

Other News

The U.S. Navy Aegis Guided Missile Destroyer *Decatur* (DDG-73) was commissioned August 29th, 1998, in Portland, Oregon. *Decatur* is the 23rd of 51 Arleigh Burke-class destroyers currently authorized by Congress. *Decatur* will be part of the U.S. Pacific Fleet. The ship is 505 feet in length, has a waterline beam of 59 feet and displaces approxi-

mately 8,884 tons when fully loaded.

The U.S. Navy also commissioned its newest amphibious assault ship, the *Bonhomme Richard* (LHD-6) August 15, 1998, at NAS Pensacola, Florida. *Bonhomme Richard* is the sixth of seven Wasp class amphibious assault ships. The ship will join the U.S. Pacific Fleet as part of Amphibious Group THREE. The Royal Navy mine-hunter *HMS Grimsby* was launched August 10th at the Vosper Thornycroft Shipyard, Woolston, Southampton. The ship, which is the third vessel of a batch of seven Single Role Mine-Hunters ordered in July 1994, will enter service in March 2000.

A report circulated over the Internet citing the daily "24 Chasa" reports Bulgaria is withdrawing its secret agents from foreign countries. A plan for the gradual disbanding of the Bulgarian armed forces'

military intelligence department is already being implemented and has begun with the closing down of a unit that spied on the U.S. military. A unit that dealt with NATO will also be closed shortly. It'll be interesting to see what effect that has on the DOR/Bulgarian MFA digital traffic.

Fellow *Pop'Comm* writer J. T. Ward was recently able to confirm that the old HF rig at the National Hurricane Center that answered to the callsign "Miami Monitor" is now boxed up in a closet at MacDill AFB, Florida. The NHC has no direct HF capability with its aircraft now, confirming my summation about the lack of any logs of Miami Monitor on their old frequencies since their move to their new Coral Gables location a few years back. The former Miami Monitor frequencies are still used for air-to-air traffic though. The NHC has an amateur HF station at Coral Gables.

Reader Mail

We want to welcome several first-time contributors this month. Dan Gillespie from northern Michigan checks in using a RadioShack DX-394. Dan became interested in SWL "a few years" ago when he was younger. Dan used the information from the October *Pop'Comm* to make his first utility station logs in a while.

Another first-timer is Dave McElroy, also from Michigan. Dave's shack consists of a Drake R8B, Kenwood R-5000, Info-Tech M-6000, and Universal M-900. Then we have Ronald Perron in



Also photographed by Alan Gale at this year's Royal International Air Tattoo was an Irish Air Corps Casa CN235 No 252. These aircraft are used for Maritime and Fishery patrols and can be heard on: 3060, 5375, 5708, 5724, 5769.5, 6682, 6766, 8980, 9020, 11265, 13210, 13250, 15053, 15074, 17990, night 2440, and day 4450 kHz.

Maryland who uses a Sangean ATS-909 and a Grove Skywire deployed in the attic. Looks like Ron gets excellent results with his set-up.

Albert W. Hussein (FL) notes that a 10093 Cuban MFA CW net that recently appeared, disappeared immediately after Fidel Castro returned home from his Caribbean trip. Albert also would like the IDs of the apparent Caribbean EMACU-BA callsigns CLP40, CLP43, CLP52, CLP63, CLP78, and CLP92. Al also suggests some frequencies to check for Mexican Navy activity: 4880, 4905, 5745, 7515, 8030, and 8336. Check plus/minus 20 kHz, for XBxx callsigns in voice, CW and ARQ-100/400. Also after frequent checks over the past couple of months, Al feels that the French Forces circuits between Martinique and Guadeloupe (IRA/ARI pair) have pulled the plug. They had been using 3389, 3756, 4466, and 4621 kHz. I've also not noted them on the air here in Ohio. Last, Al reports that Cuban Bored Man and Babler traffic continues to be nonexistent. They both disappeared about the same time an article came out in the UK based numbers station club "ENIGMA" newsletter which described them. Interesting.

Alan Gale attended this year's Royal International Air Tattoo, just about the largest military air show in Europe, which is held annually at RAF Fairford in Gloucestershire. One nice surprise was a Danish SAR hello callsign U-276, which he heard just a week earlier taking part in a number of SAR Ops off the Danish Coast. Alan also was interested to see that Harry J. Ferguson caught SAR ops on 4718 (August '98 column). Alan reports that Kinloss has recently been using 6760 kHz, as well at some of the times when 5680 hasn't been too good, so you might like to keep an ear on it as well. Alan also sent along some maritime-related Internet URLs for folks to check out: Seaports Infopages: <<http://www.seaportsinfo.com/>>; Electronic Shipping Guide: <<http://www.shipguide.com/>>; Lloyd's Register of Shipping: <<http://www.lr.org/home.html>>; Merchant Marine and Maritime Pages: <<http://pacifier.com/~r boggs/index.html>>; Maritime History Virtual Archives: <<http://pc-78120.udac.se:8001/WWW/Nautica/nautica.html>>; Maritime: <<http://www.webcom.com/maritime/>>; Mariner's World: <<http://www.futureway.com/mariner.htm>>; Signal Flags: <<http://155.187.10.12/flags/signal-meaning.html>>; Ships and Shipping: <<http://www.access.digex.net/~rjeffery/Home.htm>>; Mari-

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
tfc	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)

time Links on the Net: <<http://www.mainelink.net/~drwebb/maritime.html>>; Fairplay Daily News: <<http://www.fairplay-publications.co.uk/news/fairnews.htm>>; Russian Shipping Gazette On-line: <<http://www.publications-etc.com/russia/shipping/>>.

Tim Tyler notes that the 7th Airborne Command Control Squadron deactivation ceremony took place September 25, almost six months after the first USN E-6B ABNCP (Airborne Command Post) flew its first U.S. Strategic Command Airborne Command Post mission on 3 April 98, the 37th anniversary of the continuous airborne alert posture for "Looking Glass." Continuous airborne alert ended on 24 July 1990, however, a "Looking Glass" aircraft had been airborne for at least five hours each day since then. The final USAF EC-135 "Looking Glass" flight took place that day departing and returning to Offutt Air Force Base, Nebraska. The official deactivation took place October 1, 1998. Tim notes that although 7th ACCS and their EC-135Cs go away, the USAF will continue to operate a few EC-135 airframes.

Tom McKee (SC) sent an interesting Website that those on the net can use: <<http://gullfoss.fcc.gov:8080/cgi-bin/ws.exe/beta/genmen/index.htm>>. This is a beta site for the FCC that permits the checking of callsigns and frequencies, including HF ute stations.

John Whitehead (Canada) forwarded news detailing information on a communications update for the Canadian Navy. Harris Corporation won a \$16 million dollar contract for communications transmission equipment to update and automate the Canadian Navy's coastal radio stations in Halifax and Vancouver. Harris will supply 54, 10-kilowatt High Frequency (HF) transmitters, seven high-power Low

Frequency (LF) transmitters, a distributed Remote Control Network, installation, and other services over the next 30 months. The new equipment will provide continuous data and voice communications for Canadian Naval vessels, military aircraft, and maritime patrol aircraft.

Now, on with the show . . .

UTE Loggings SSB/CW/DIGITAL

- 293:** OB, Locator Brussel-Zaveltem, BEL at 1513 in CW. (AB)
300.5: DU, NDB Dungeness light, G at 0700 in CW. (AB)
301: ER, NDB Eierland light, HOL at 1421 in CW. (AB)
327: MVC, NDB Merville, F tuned at 1443 in CW. (AB)
336.5: NIK, NDB Nicky, BEL heard at 1432 in CW. (AB)
350.5: ROT, NDB Rotterdam, HOL at 1431 in CW. (AB)
352.5: DD, NDB Oostende light, BEL at 1500 in CW. (AB)
376: WP, Locator Amsterdam, HOL at 1433 in CW. (AB)
387: ING, NDB St.Inglevert, F heard at 1425 in CW. (AB)
399.5: ONO, NDB Oostende, BEL at 1437 in CW. (AB)
404: MRV, NDB Merville, F heard at 1438 in CW. (AB)
447.5: LGQ, Rogaland Radio, NOR at 1428 in CW w/Wx forecast. (AB)
518: NMG: USCG CommSta New Orleans at 0328 in FEC w/NAVTEX t/c. (DW)
2500: ULA4, TSS Tashkent, UZB at 2312 w/ CW time signals and ID.(AB)
2582: Comfort Cove CG Radio at 0142 in USB w/vsl Arctic Circle, callsign CFF2685. Arctic Circle enr to St. Pierre and Miquelon and is req to provide expiration date of international oil pollution certificate. (RP)
2749: Halifax Coast Guard Radio at 0127 in USB in broadcast to mariners on nav hazards. At 0200 w/FF notices to mariners for New Brunswick Bay of Fundy and St Johns and approaches. (RP)
2863: Honolulu Volmet, Hawaii, w/avian wx report in USB at 1225 //6679//8828. (TY)
3047: At 0438, Halifax Military elg RESCUE 108 in USB during Swissair 111 SAR. (RM)
3250: North Korean/YL nbrs at 1500 in powerful AM //657//6250 //6400 kHz. (TY)
3410: Unid fishing boats at 0430 in USB talk of fishing, boats and employees. (DB)
3485: New York Volmet broadcast at 0150 in USB. (RP)
3645: Mexican Military at 1057 in USB w/XBRI wkg XBNO, others, some voice and CW, good level, also on 4880. Frequently active both local evenings and mornings lately. (AWH)
3755.3: Unid station near Krashnodar, RUS at 2358 w/CW Pips. (AB)
4020.4: VBGM: Czech Border Guards, CZE at 1845 in RTTY 50bd w/RY's. At 1915,

TS4X w/same. At 2015. PV3Z w/same. At 2115, XW6T w/same. All new callsigns and freq. (AB)

4028: ZBMH, Czech border patrol, CZE at 1800 in RTTY 50bd, every 15 min does RY and c/s (ZBMH, JDP7, SL8W or T7FM). (AB)

4044: ZBMH, Czech Border Patrol, CZE at 2209 in RTTY 50bd every 15 min w/Ry+c/s (ex 4028 kHz). (AB)

4113: ELKI6, M/S Fantasy at 0149 in USB, 70.367 DWT Carnival cruise ship, wkg KMI (on 4405) for radiotelephone t/c. (Ed.)

4165: MIW2, Mossad, Israel, hrd at 2015 in USB //5629kHz. (TY)

4179.5: UAQU, TKH Sasha Borodulin monitored at 0625 in ARQ w/msg via PCH (is ex-USCC). (HOOD)

4232: FUF, French Navy, Fort de France, Martinique in RTTY 75/800 w/calltape. (DW)

4256: WLO, Mobile Radio, in FEC at 0005 w/WX ref tropical depression in the Gulf of Mexico. (TS)

4372: Lima 2 Whiskey and 6 Uniform Lima heard at 0158 in USB clg GIANT KILLER (USN FACSFAC, Virginia Capes), at 0253, 6UL req permission for anchorage during 0500-0700z. CIQ req GIANT KILLER phone HELSUBRON 6 to relay departure for CIQ as 0030. (RP)

4463: FTJ, Mossad, Israel, hrd in USB at 1930. (TY)

4503: Time station (M18), RUS at 2223 w/CW Time in UTC+4: 0223. (AB)

4540: ARCHITECT at 0222 in USB w/airfield wx reports. (RP)

4640: YL/EE counting station in AM at 0017 w/3/2F msg. (TS)

4700: Halifax Military at 0104 in USB wkg a/c Whiskey O Delta. (RP)

4701.2: RFLIGE, French Guiana, St Jean du Maroni, presumed at 0330 in ARQ-E 192/170, idle/no t/c, weak, would be ckt GEG normally on 3554.2, inaudible there. All other GUF stations in this mode accounted for on 3693/5818/6963. (AWH)

4718: Rescue 12 at 0251 in USB wkg Kinloss Rescue, released by Rescue 115, eta base 0400z. (AG)

4739: CARDFILE 71 Delta (USN P-3) at 0012 in USB reporting Spare Group 4 at 0000z to station Zulu Oscar Victor. (RP)

4742: ARCHITECT at 0130 in USB giving airfield color states. At 0258 wkg ASCOT 5052, departed EGD1 bound for LCRA. At 0129 w/ASCOT 4877 w/posn report and Selcal ck. (RP)

4770: North Korean/YL nbrs stn at 1400 in AM //5872 kHz. Similar activity hrd on 5715 kHz. (TY)

4801: ONC51, Unid Greek mil, Corfu, GRC heard at 2146 in CW w/ endless repetition of the c/s. (AB)

4802: Backwards Music station at 2114 in TONES, different from the others. Sounds more like whistles. (AB)

4948: Cyrillic letter station at 2020 in CW, transmits Cyrillic characters separated by a space mark. (AB)

5116: VLR School of the Air Longreach QLD, Australia at 0800 in USB w/YLs talking about fund raising. (IJ) Cuban 5F CW cut # msg at 0203. (TS)

5117: Cuban YL/SS 5F msg grp in AM at 0441. (TS)

5126: Unid tactical at 1514 in USB w/CLH clg CLF, non-phonetic callsigns, American male voice, no reply, then burst of 1200ish baud data. (AWH) (*wonder if it's Navy MARS? NNN0CLF is the USS Valley Forge CG-50 while CLH is unid — Ed.*)

5154: NNN0RFM at 0353 in PACTOR t/c w/NNN0GKI, Navy MARS t/c. (DW)

5160: TELSTRA Sydney Skycomm NSW, Australia and QANTAS 142 at 0650 in USB w/pp to Qantas Control. (IJ)

5180: Cape Radio at 1402 in USB using c/s CHARMER 1 wkg *Liberty Star*, Solid Rocket Booster Recovery Ship, being used in the Titan IV debris recovery operations. *Liberty Star* confirms location off KSC at 28-33 North, 80-30 West. (AS)

5203: Net Control stn MIKE 9 KILO heard at 1317 in USB w/roll-call checks to stations: M4Q, C9T, MIR, X6V, P2C, G4V, and U3J. This is a FEMA freq, but t/c sounded like USN. (RP) (*poss joint FEMA DoD comms exercise — Ed.*)

5320: Coast Guard Station Atlantic City at 1134 in USB w/Cutter *Point Warde* re details of 3 survivors pulled from water. (RP)

5374.7: France, presumed FDX, heard at 0145 in ARQ-E3 200/400 idle/no t/c, would

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Royal Danish Air Force S-61A Sea King U-276 from Eskadrille 722 at Vaerlose heard by Alan Gale on 5680 in a SAR mission as "Rescue 276" just the week before he took this picture.

be ckt FDX to Chad, return link audible 14585.7. (AWH)

5395: New Zealand Army Net at 2115 in USB w/exercise comms, 31 and 95 w/NZ accents. At 0330 31 and 95 w/Alpha-numeric messages and tracking comms, Friendly Aeromacchi, Orbiting, Landing, incoming hostile Aeromacchi, Air Raid Alert White. (IJ)

5431.5: P7X in CW at 0210 w/5L msgs interspersed w/data xmissions. (TS)

5435: Mossad (E10) at 2032 in USB w/ "ART." (SD) Same at 1530. (TY)

5637: Cuba, unid OM/SS in USB w/short counts, poor audio, then clg numeric call signs. Not babbler per se, but part of accompanying net, sounds telco audio fed. (AWH)

5643: Auckland Aeradio New Zealand and SAM 27000 at 1040 in USB, SAM 27000 reported at FL330 just departed New Zealand after U.S. Secretary of States' nine-hour visit to Auckland. (IJ)

5678: CC/YL nbrs hrd at 1838 in LSB. (TY)

5680: DRAT, FGS Emden — German Navy Frigate F210, at 0937 w/kg Karup Rescue (DNK); Karup at 1008 w/kg Rescue 276 (Sikorsky S-61N helo call sign U-276 of Eskadrille 722 unit of the Kongelige Danske Flyvevaabnet, based at Vaerlose); Belgian Air Force 95 at 1335 in r/check w/Koksidge Rescue (BEL); Sweden Air Rescue at 1539 in r/check w/Danish Rescue helo 276; Sea King 20 at 2214 in r/check w/Kinloss Rescue (G); Mission 4859 at 0026 clg Glucksburg Rescue (D); DRFN, FGS Ensldorf, German Minesweeper M1094, at 1011 clg Glucksburg Rescue for r/check; Valentia Radio (IRL) at 1232 in r/check w/Rescue 11 (G); Stavanger Rescue at 0722 in r/check w/Kinloss Rescue (G); Hotel 94 at 1556 in r/check w/Sweden Air Rescue; Twister 2 at 1332 w/kg Kinloss (Puma helo w/8 pob enrt Carlisle to RAF Leuchars); Rider Formation at 1336 w/kg Kinloss, departed EGGP Liverpool, est EGAA Aldergrove at 1500, Rider One has 6 pob, Rider Two 7 pob, 2 Puma helos from 230

Sqn based at RAF Aldergrove returning from RIAT at Fairford; N101AJ at 2356 clg Baffin Radio, Can, "This is N101AJ on 5680 how copy?" (no reply heard). All in USB. (AG)

5687: ZKX, RNZAF Auckland, New Zealand and ORION 4202 (P3) at 0445 in USB w/pp re forced return to Auckland (must have been low on fuel, was trying to locate an EPIRB which had be activated) advise MSA Maritime Safety Authority and SAR. (IJ)

5696: NOJ, COMSTA Kodiak at 0530 w/kg 6017 (HH-60J). At 0549. NOJ req QSY to and radio ck on 11201 (not 11202). No joy. QSY back to 5696. At 0553, QSY to 3120. Nil heard. (DW) Rescue 1500 (HC-130, Elizabeth City, NC) w/CAMSLANT Chesapeake at 0300 w/pp CG 5th District Command Center. 1500 w/kg w/Cutter Point Highland to search for and illuminate unid vsl. (RP) Both in USB.

5717: Rescue Op's for crash of Swissair 111 starting at 0400 in USB w/RESCUE 462 w/kg Halifax Military w/ops/pos report. At 0420, RESCUE 306 w/kg Halifax, req RCC have blankets available for their departure from Shearwater. At 0423, RESCUE 108 w/pp RCC via Halifax re tasking from Greenwood Ops, getting command info, concern over lots of helo traffic, all helos to check in/out w/ 108, Shearwater will be casualty reception point. Following aircraft available: RESCUES 305 (Labrador), 304 (Labrador), 34 (Sea King), 17 (Sea King) are in area, more on the way along w/ Heres (C-130) enrt fm Greenwood and Trenton to Shearwater. At 0457 Halifax w/kg RESCUE 108, req 108 go to TACAN. (wonder if that meant voice? — Ed.) At 0458 RESCUE 108 w/pp RCC via HALIFAX, on scene 0436, now CAF, 3 helos on scene. 305, 34, 17, surface vessels have ID'ed debris, gave coordinates, extensive debris field. Have contacted all 3 helos, set up safety of flight and is tasking helos. Tasking for 314, insert raft and related equipment in center of debris field, require posn of where dropped. Also used 2828 as SAR freq, comms went into next day.

(RM) Halifax Military at 0120 in USB w/RCC, RESCUE 112: Rescue 310 (C-130), Cape Rodgers and Speed Air 02 re SAR op's in area of 4635N/4749W, debris sighted at 4553N/44806W. (RP)

5746: Lincolnshire Poacher, MI6, Cyprus, hrd in USB at 1900 // 6485// 8464kHz. (TY)

5779.5: P7X at 0712 in CW w/5LGs. At 0715 into unid 267/660 FSK signal. At 0719 into CW call and 5LGs. (DW)

5795: Unid Mexican Military heard at 0439 in USB w/simplex comms letter/number groups. (DW)

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

5887.5: IMB2, Rome METEO, Italy at 0415 in RTTY 50/850 w/WX synopsis. (IJ)

5910: North Korean nbr stn (R. Pyongyang) monitored in powerful AM at 1400 //4770 kHz. (TY)

6286.5: UAPW, TKH Volgo-Balt 215 at 0640 in CW w/msg via UCW4 (HOOD).

6344: At 0436 WLO, Mobile Radio in FEC w/High Seas TX rates, plug for GMDSS operator's course offered by Mallory Radio in Corpus Christi, followed by a tropical advisory for Hurricane Bonnie. Traffic list followed that. (SW)

6364: CAMSPAC Point Reyes at 0204 in USB w/COPPER POUND 801 req flight op's report. (RP)

6370: SYN2, Mossad, Israel, repeating call signs in phonetics and USB for more than two hours. (TY)

6393.5: UDK2, Murmansk Radio monitored at 2130 w/CW to "4LS" QSX 6287 kHz 17/8 (HOOD).

6485: Lincolnshire Poacher, MI6, Cyprus, hrd in USB at 1700// 5422// 8464 kHz. (TY)

6496.4: At 0449 unid stn w/METAR reports in 75 bd RTTY. (SW) (CFH, Halifax Military — Ed.)

6501: CAMSLANT Chesapeake at 0200 in USB w/kg a/c Hotel 2 Oscar. H20 req they relay to Group Miami that they will refuel and continue normal ops until 0630. Also noted CAMSLANT on 8764 w/H20. (RP)

6577: ATC station w/flight info to an a/c bound for San Juan, PR. (BF) (probably NY here — Ed.)

6586: New York ATC at 0147 in USB w/kg a/c AK503 for posn and selcal. At 0148 New York w/kg unid flt 095, adv them to use back up frequency of 5550. (BF)

6589: Cuban "6589 net" at 1230 in USB, OM/SS w/test counts, on/off, sometimes w/carrier, otherwise USB only. (AWH)

6604: Air wx given for Eastern cities at 0145 in USB, probably NY. (BF)

6676: Bangkok Volmet, Thailand, w/avn wx report in EE in USB at 1210. (TY)

6694: Rescue 312 (C-130) at 0048 in USB w/kg Halifax Military re QSY to "A6F," then found on 5717. (RP)

6697: "LANDSCAPE" w/26 character EAM at 0100 in USB. At 0039, REPATCH also w/EAM. (RP)

6712: REACH 7 Victor 5, USAF C-141 Tail #40628, at 0050 in USB w/kg Croughton w/pp

Hilda East re extension of crew day on flight to Rota, Spain. (RP)

6715: McClellan at 1111 in USB w/kg Offutt coordinating data. (SD)

6739: ARCHITECT at 0200 in USB w/air-field color states. (RP)

6748: QUEBEC CONTROL, GOLF and ROMEO, US Military, at 0705 in USB w/"any station this net, in the red and nothing heard out." (IJ)

6753: Backward Music station at 2204 w/TONES, not //5178 and 6695 kHz. (AB)

6754: CanForce Volmet at 0725 in USB w/aviation wx. (DW)

6758: MKL, RAF Pitrvavie, G at 0600 w/CW Cavok, wx. (AB)

6760: SRG138 in r/check w/Kinloss Rescue (G) fol by Rescue 128 at 0922 in USB. Rescue 12 at 0110 in r/check w/Kinloss Rescue "QSY to 4718 kHz." Kinloss at 1845 in r/check w/Rescue 177. All in USB. (AG)

6780: MFA Budapest, HNG at 0558 in DUP-ARQ 125bd w/encrypted msgs. (AB)

6797: Cuban YL/SS in AM heard at 0212 w/5F msg. (TS)

6835: Unid poss US Military Stn at 0530 in USB w/advisory signal, was very weak, caught something that sounded like Atlantic and Caribbean then all vessels will be subject to boarding and inspection. Possibly SEABREEZE FACSFAC? (IJ)

6866: Cuba, SVR at 1324 to 1338, testing, SP W "989 989 989 00000" into OC; tx remained

on, then counts switch to also-active tx on 8157 w/ EG M "989" a few times. "989" is usual test message. (AWH)

6901.5: CC/YL nbrs at 1218 in LSB. (TY)

6916.4: Presumed oil rig stn at 0535 in ARQ, most of msg was garbled. (IJ)

6959: Lincolnshire Poacher, CYP at 2200 in USB, Id 94454. (AB)

6976: The CIA Counting stn heard, YL/EE w/3+2F's in AM at 1500 // 10723. (TY)

6993: SPAR 06 at 1152 in USB w/kg Andrews re ETA 1306. (RP)

7039: "F," Navy Vladivostok and "K," Navy Khabarovsk, both Russia, w/CW channel marker at 1114. Again at 1225. Two Russian single letter stns simultaneously heard on this freq. (TY)

7460: FDG, FAF Bordeaux, France at 0525 in RTTY 50/425 w/RVRY. VOYEZLE BRICK GEANT QUE JEXAMINE PRES DU GRAND WHARLF. (IJ)

7529: Russian Man. RUS heard at 0500 in AM. 549 549 549 1 (R5) 248 72 248 72 5FG 000 000. (AB)

7545: VL4CHV, Qld Department of Environment and Heritage. AUS heard at 2258 in USB w/Townsville Base chatting to unid, mobile. (SD)

7547: The CIA Counting stn, YL/EE, w/3+2F's in AM at 1200 // 10223. Similar but non-parallel Counting stn heard in AM on 12221 // 13903 at same time. On another day same stn heard in AM at 1300 // 10529. (TY)

7587: Fijian Army or PNGDF net at 0710 in USB w/GOLF9 self'id'ed as SUNRAY (C.O.) adv he is changing to GMD. (SD)

7632: USAF McClellan AFB, CA at 1050 in USB w/ALE Bursts and this is McClellan out. (IJ) (*Scope Command — Ed.*)

7637: VJQ727, School of Distance Education, Emerald (Qld), AUS at 0142 in USB w/math lesson to Jack, Maxine and James. (SD)

7678.5: HBD20, MFA Berne, Switzerland at 0645 in ARQ w/5L. (IJ)

7760: Presumed US Fish and Wildlife Service, KOJ638 Tern Island, Hawaii w/ship WKFO or SO? Tropic Cromwell? (sounded like a lot of static and fading) at 0555 in USB. (IJ) (*anyone have more info on this net? — Ed.*)

8057: P7X spook stn at 1345 w/usual CW grps //10692.5. (AWH)

8061.5: Unid, Offshore drilling platform? Heard at 0316 in USB INTERMEDIATE, PUMP STN 1 thru 4, DISPATCH w/professional sounding app oil line/offshore related comms. Info? (*Ed.*)

8125: FAA net active in checks 1453 to 1500 in USB. KLO87 unid, as net control w/KCJ20, Farmington, MN; KCP63 Denver; KIA21 Oklahoma City; KIT88 Martinsburg, WV; KDM47 Ft. Worth; KDM45 San Juan, PR; KDM49 Atlanta; KDM52 Memphis, TN; KMA47 Miami; KJK79 Hilliad, FL; KJK80 Leesburg, VA; KJK82 Jamaica, NY; and KJK87 (Unid). (RP)

8130: FDY, FAF Orleans, F at 0843 in RTTY

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CIRCLE 67 ON READER SERVICE CARD

75bd test tape. (AB)
8146: IMB, Rome Meteo, Italy at 0517 in FAX 120/576 w/chart. (DW)
8190: Tango 3 Zulu at 0245 in USB w/kg Victor 5 Alpha. (RP)
8320: YL/EE. Cherry Ripe nbr stn heard in USE at 1200 //12056// 13866. (TY)
8384: SWUY. M/V Captain Diamantis at 0646 in ARQ w/msgs via SVU login 16823 SWUY (a 68847 dwt bulker). (HOOD)
8399.5: UBC1, RTMKS Kurskaya Kosa at 2112 in RTTY 50/170 request for provisions via UIW. (HOOD)
8453: HWN, Paris Naval at 0454 in RTTY 75/700 w/call tape. (DW)
8464: Lincolnshire Poacher, MI6, Cyprus. hrd in USB at 1700 //5422//6485 kHz. (TY)
8549: UCE, Arkhangelsk Radio, RUS at 0723 in ARQ w/msg to UCZE: TKH Amur 2518 (3159 DWT sea-river cargo vsl of Northern River Shipping Co). (HOOD)
8605: UIW, Kaliningrad Radio, RUS at 0633 in CW w/crew TG to ELQZ5. Frost 1 (9606 DWT ref cargo vsl). (HOOD)
8837: Two Hebrew-speaking stations w/kg simplex at 0242 in USB. Possibly exchanging airport info, uses Zulu times and NATO phonetics. (RP) (*El Al LDOC — Ed.*)
8867: Auckland Aeradio New Zealand and SAM 27000 at 2340 in USB, adv SAM 27000 to contact Auckland Control on 123.9. (IJ)
8965: RAAF net w/SIERRA QUEBEC GOLF at 0600 in USB w/kg DELTA 1 CHARLIE w/ops normal msg. Then ORION 4202 w/kg Air Force Auckland, NZ w/posn report 26-40S/176-32E, adv had located 406 beacon and that fishing vsl "Fifty South" was 10M away ent to investigate but a/c could only remain in area for 20 min. (SD) (*406 beacon mentioned is a 406.0 MHz EPIRB Emergency Posn Indicator Radio Beacon — Ed.*)
8971: At 0346 on BLUE STAR, SCREW TOP 02 (E-2C), SCREW TOP 03 (E-2C), PHANTOM 10, and MIKE w/track coordination, traffic regarding ATOIs, passing of contact freqs intercepts, also tracking ROMEO 02 and ROMEO 03. (RM) QUARTET 715 (USN P-3) w/kg Zero Papa Xray at 1840 coord receipt of msg via CRATT (not further ID'ed). At 0224 BLUE STAR vectoring SCREW TOP 02 (E-2C, Norfolk NAS) and SWORD in

probable drug interdiction activity in the Gulf of Mexico. SCREW TOP 02 and STINGRAY 31 chasing contact in area of 1828N/8021W. Stingray does not have clearance over Haiti and can't chase contact if continues toward Haiti. (RP) (*CRATT is Crypto Radio Teletype, also known as NATO 100, encrypted, normally 75 baud. RTTY — Ed.*) US Navy Link-11 coordination and tracking net at 0122. (TS) All in USB.
8983: CG Rescue 2140 (HU-25 CGAS Miami) at 0144 in USB w/CAMSLANT Chesapeake re recovering 1 person from plane crash and is returning to Opalocka, Florida w/survivor. (RP)
8992: At 1352 unid stn heard c/g "For AXLE-TREE" (?), then numbers, 6CKDUX. What do the grouping of letters and numbers mean? (*Force Direction Message sent by a GHFS station — Ed.*) At 0250 ABSOLUTE w/kg unid re has them on radar five miles behind. (DG)
8995: Unid a/c 003 at 0201 in USB using mixed AA/EE w/unid ground stn passing flight wx and posn report. (RP) (*have to watch this one, no prior logs like this here, USN and pirate stns only — Ed.*)
9003: Jordanian 764 monitored at 2330 in USB w/ground station passing posn in EE mixed w/AA, poss LDOC freq for Royal Jordanian Airways. (RP)
9007: Canforce 2569 w/kg Trenton Military at 1515 in USB reporting departure from Greenwood. At 0051 Trenton Military w/kg Canforce 2625 and Canforce 2635 part of 3 plane flt to Trinidad. (RP)
9060: Cuba? CW net at 1352, 2 stations equal level w/SS plain-text, no IDs noted. Same stations noted immediately prior on 5296 w/"UP UP" before moving here. (AWH)
9226: High Pitched Polytone (XPH) at 0600 in AM, tonal numbers station. (SD) The same also heard at 0600. (AB)
9240: Papua New Guinea Defence Force Patrol Boat at 0750 in USB adv he's at anchor. (IJ)
9251: Lincolnshire Poacher, MI6, Cyprus. hrd in USB at 2000 //7337//12603kHz. (TY)
9429: Russian Man, RUS at 0520 in AM w/549 549 549 1 (R5) 248 72 248 72 5FG 000 000. (AB)
9435: JMJ3, Tokyo Meteo at 0743 in FAX 120/576 w/chart. (DW)

10031.7: Egyptian diplo station in ARQ at 2344 w/5L and plain text msg. (TS)
10046: 4XZ, Israeli Navy, Haifa at 0027 in CW w/call tape. (DW)
10051: New York Volmet at 1411 w/wx report. (DG) Same at 0241, w/aviation wx for Philadelphia, Washington and Baltimore. (DB) Both in USB.
10281.3: RFLIG, French Forces Cayenne at 0722 in ARQ-E3 192/400 idling, over 3 hours several CdV msg on ckt RTL. (DW)
10328: Cuba, unid SVR (BPA probably) at 1524 in RTTY 75/500 w/ RYRY callup, but couldn't get booted in time for ID, QRU SK then gone. (AWH)
10426: Lincolnshire Poacher, MI6, Cyprus, hrd in USB at 1600 //6485//7755 kHz. (TY)
10608.1: USCG UNIFORM 7 INDIA w/kg USCG Group Miami monitored at 1458 in USB re interception of sailing vessel at Governor's Harbour, passing ID info re passengers. (AWH)
10626: RFFXL, FFNaqoura, Lebanon at 1310 in ARQ-E 184.6/400 idling. (DW)
10805: Stockholm Aeradio, Sweden and November Alpha at 0520 in USB w/pp's. (IJ)
10820: CIO2, Mossad, at 0247 in USB, YL/EE repeating "CIO2." (DB)
10969: HBD20, MFA Berne Switzerland at 0535 in ARQ w/5Ls. (IJ)
11021: Ansett Dispatch at 2400 in USB w/kg VH-HYD w/METARs for various Australian cities. (SD)
11106.5: Unid stn at 0225 in USB, group of numbers repeated for several minutes. (DG) (*new one for me — Ed.*)
11140.4: Unid North Korean diplo at 0305 on, in RTTY 50/500 w/ usual 5F t/c w/grp counts every 5th line, then some plain text Korean. At 0320 into CW fills. Cuba site maybe. (AWH)
11167: Russian Man, RUS at 0540 in AM w/131 131 131 1 + 5FG 000 000. (AB)
11175: At 0246 TEAL 02 (Hurricane Hunter), w/pp via Ascension to Orlando, FL, TV station re interview w/Dr. Bob Sheets, reference Hurricane Bonnie. (CB) Unid stn at 0032 w/Q3X3GJ headered msg. (DG) LEPER 10 at 0055 USB w/pp Miami Weather Center re if MIA received packets on Tropical Storm Bonnie. Info on 20 packets followed. At 0255 live pp from pilot of Hurricane Hunter describing conditions inside Hurricane Bonnie, a/c id'ed as "223" only. Moving slowly toward the coast of US. (DM) (*might have been TEAL 23 — Ed.*) TEAL 33 USAF hurricane hunter a/c at 0230 w/pp to the Weather Channel w/observations of Hurricane Bonnie. (TS) All in USB.
11178: Dutch Navy 393 w/kg Dutch Navy 379 at 2005 in USB coordinating receipt of plain text msg, at 2027 Navy 379 calls Papa Juliet Kilo to report op's normal. Both used accent-ed EE. Dutch Navy Suffisant Dorp net. (RP) (*PJK is Dutch Navy, Suffisant 11178 Dorp Naval, Curacao, Navy 379 and 394 should be P-3C's out of MVK Valkenburg — Ed.*)
11187: Halifax Military 1817 to 1840 in USB w/Rescue Coordination Center (RCC), Rescue 106 Helicopter, Rescue 313 (C-130) and

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Rescue 306 (C-130) in SAR op's. Rescue 314 had to return to Labrador due to wx. Rescue 106 will return to Greenwood this evening. This is listed as US Navy frequency. (RP) *(First time I've seen the Canadians logged here — Ed.)*

11205: ARCHITECT at 0130 in USB w/air-field color states. (RP)

11214: SENTRY 50 (E-3 AWACS) monitored at 1336 in USB w/kg Trenton Military w/pp to RAYMOND 24 (Tinker AFB), declaring in-flt emergency, has trouble w/engine oil pressure in #3 engine, will return to Tinker, dump fuel and do 3-engine emergency pattern landing. (RP)

11247: ARCHITECT w/kg ASCOT 2301 at 0021 in USB. (RP)

11250: USAF Anderson, Guam, and McClellan, Ca at 0650 in USB w/ALE Bursts and standing by for data. (IJ)

11271: SWAP 22 w/Thule at 2354 w/pp, this is a Thule discrete freq. (RP) Rescue comms between RAAF aircraft and shore involved in search for the downed balloonist Fossett at 0920 w/RESCUE 252 advising Air Force Darwin that they'll call again when airborne. (SD) Both in USB.

11387: Calcutta Volmet, India, w/flying wx in USB at 0935. Bangkok Volmet, Thailand, hrd at 0940. (TY)

11416: XPH Polytone station at 2020 w/tones. (AB)

11460: SAM 201 at 0409 in USB w/kg Andrews w/request for pp to US DAO Oman. (DW) *(DAO is Defense Attache Office — Ed.)*

11541.7: RFLI, FF Martinique at 1515 in ARQ-E3 96/400, stuck on VZCZC forever, finally got out "ZCLI~~", so evidently ckt LIH to Tahiti, then into rather vain attempt at a CdV msg. Return link not located. (AWH)

11545: Lincolnshire Poacher, M16, Cyprus, hrd in USB at 1700 //6959//8464kHz. (TY)

12066: Spanish Man at 0611 in AM w/null msg 103 103 103 000. (SD)

12215: VICTOR 2 OSCAR HOTEL calling unid station for readability check at 2350 in USB. (RP)

12242: OM/SS, callsign "Guarda" clg Portico Radio at 0100 in USB. At 2154 USCGC Manitou (WPB-1302) clg CAMSLANT Chesapeake. (RP)

12356: ZLM, RNZN Auckland at 0913 in USB w/MIB. //6224. (DW)

12478: UCOA, TKH Kapitan Zamyatin heard at 0701 in ARQ w/msg to Sofia in EE via UCE. (HOOD)

12550.5: C6HL9, M/V Elikon at 1707 in CW clg USU (28234 dwt bulker). (HOOD)

12562.5: UCVK, Kruzenshtern at 1250 w/crew TGs to UIW (a sailingbarque). UGVJ, RTMS Novocheboksarsk at 0638 w/admin msg from Km Sergejev to UIW. Both in RTTY 50/170. (HOOD)

12601: ZSC, Cape Town Radio, RSA at 0904 w/ARQ free signal and cw ID. (DW)

12601.5: OXZ, Lyngby Radio, Denmark, w/powerful Sitor CW ID at 1900, covering Lincolnshire Poacher (12603 kHz). (TY)

12678: LFI, Rogaland Radio/Globe Wireless,

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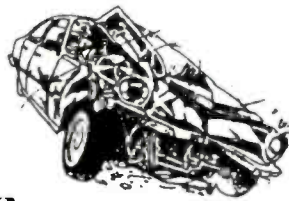
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NOR at 0857 in ARQ msg to M/V Tus. (AB)
12729: UVA, Gelendzhik Radio, UKR heard at 0620 in CW calling UHSJ: TKH Pioner Koly. (HOOD)

13077: KMI, ATandT Coastal Station, Calif, at 0232 in USB w/kg vsl Aleutian Spray w/radiotelephone t/c. (DB)

13164: ATandT "High Seas" operator at 2142 in USB patching phone call from vsl Texas Clipper in Panama. (RP) (this would be WOM in NJ — Ed.)

13204: TEAL 42, USAF hurricane hunter a/c in USB monitored at 0221 w/kg Ascension w/pp to Nightline for interview ref Hurricane Bonnie. (TS)

13257: Trenton Military at 1930 in USB w/Canforce a/c tail number 146601. (RP)

13375: Lincolnshire Poacher, MI6, Cyprus, hrd in USB at 1500 // 11545 // 12603 kHz. (TY)

13416: XPH Polytone station at 2000 w/TONES. (AB)

13440: USAF, Andrews and Hickam at 2245 in USB w/Andrews wanting the phone # of the Hickam Security Police. (IJ)

13533: EZI, Mossad, Israel, hrd in USB at 1430 // 11565 kHz. (TY)

13920: AXM35, Melbourne Meteo, AUS at 0655 in FAX 120/576 w/chart. (DW)

14325: 0200 on in USB National Hurricane Center requesting stations from the U.S. East Coast and Bahamas that can report drops in barometric pressure and rises in wind speed. K5SID(?) was Net Control for the National

Hurricane Watch Net. (CB)

14375: Unid FARPSI Station at 0500 in RTTY 75/500 w/RYRY and 5L. (IJ)

14383: USN MARS. NNN0KRQ at 0125 in USB w/pp t/c for ships NNN0CYT and CSN. (RP) (CYT is USS Yorktown (CG-48), CSN is USS Moosbrugger (DD-980) — Ed.)

14570: Russia SVR "English Man" (aka Boris Badanov) at 1236 seemed 5F, fair sig but very low audio. Far East tx? (AWH)

15043: USAF Andrews and Offutt at 0740 in USB w/ALE Bursts and radio checks. (IJ)

15388: New Star Broadcasting, Taiwan, CC/YL w/4F at 1600 in AM. Similar activities hrd on 8300, 9725, 11430, 13750 kHz. (TY)

16086: The Counting Station at 1100 in USB w/386 1234567890 ten beeps, count 215, 3FA47, 813/47. (CT)

16702: 3FMC7, Silver Dream at 1300 in ARQ msg to Cyprus via Global (a 3700 dwt LPG carrier). (HOOD)

16800.5: ULRY, TR Bukhta Russkaya at 0928 in RTTY 50/170 admin from Km Nemtsev to Vladivostok via UIW. (HOOD)

17066: UAT, Moscow Radio heard at 1234 in CW w/CQ and freqs as 8480/12739/17066/22493. (HOOD)

17410: EZI, Mossad, Israel, hrd in USB at 1130 // 115980 kHz. (TY)

17499: Cherry Ripe at 2300 in USB w/new format, id 80715 also tx on 22108. (SD)

17994: Japanese Military stn at 0040 in USB w/WX forecast in EE and JJ to unid unit. (IJ)

18014: CLP1, MFA Havana, Cuba at 2215 in RTTY 75/500 w/NX in SS. (IJ)

18015: AUSSIE 412 at 0123 in USB clg AFDAR who was good readable. (SD)

18018: ARCHITECT at 1132 in USB w/air-field wx forecasts. (RP)

19288: CLP1, MFA Havana, Cuba at 2150 in RTTY 75/500 w/5L and Msg to EMBA-CONGO. (IJ)

20819.8: CLP1, Havana, Cuba heard at 1329 in CW w/kg CLP45, QSV, hand-keyed, cross-band. (AWH)

22407.5: UAT, Moscow Radio monitored at 1038 in ARQ w/mailbox rpt to UGDS: TKH Topaz. (HOOD)

This month's contributors: (AB) Ary Boender, The Netherlands; (AG) Alan Gale, UK; (AS) Allan Stern, FL; (AWH) Albert W. Hussein, FL; (BF) Bill Farley, NM; (CB) Christian Bryant, GA; (CT) Clarence Thompson, TX; (DG) Dan zGillespie, MI; (DM) Dave McElroy, MI, (DW) David C. Wright, TX; (HOOD) Robin Hood, UK; (IJ) Ian Julian, New Zealand; (MS) Mike Scott, NJ; (RM) Roland R. McCormick, GA; (RP) Ron Perron, MD; (SD) Simon Denneen, Australia; (SW) Sue Wilden, IN; (TS) Tom Sevart, KS; (TY) Takashi Yamaguchi, Japan; and (Ed.) ye editor in Ohio. Thanks to all. ■

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Broadcast DXing

BY BRUCE CONTI
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DX, NEWS AND VIEWS OF AM AND FM BROADCASTING

Mediumwave DXpeditioning Goes Mobile

If the DX can't come to you, then go where there's DX. That has become the philosophy of many mediumwave DXers with the advent of compact high-performance low-power-consumption table top receivers like the AOR AR7030, Drake R8B and the Lowe HF-225 Europa. Most of today's high-end table top receivers can be powered by 12 volts DC, and can run off a car battery via the cigarette lighter/power port for hours without worry of depleting the battery to the point where you can't start the car. Of course, it's advised to run the engine for a few minutes every couple of hours just to be safe. So now DXers can take their favorite receivers on the road for DX far superior to anything that can be heard at home, without sacrificing performance or breaking the bank on battery packs. Thus, the mini-DXpedition is born.

Getting Away From Noise

The first rule of mini-DXpeditioning is to find a quiet location. Often DXers are plagued with electrical noise at home from various sources such as light dimmers, computers, televisions, power lines, and noisy modern appliances. A remote location that is a good distance away from power lines and buildings can provide for exceptionally low noise reception. The location should also be away from transmitter towers which, because of zoning laws, are often found in remote areas. For example, proximity to a cell phone tower or navigational beacon can sometimes result in receiver overload problems. If you need help finding a good location, check with a local astronomy club. Astronomers look for remote "low noise" locations too, although the *noise* they're concerned with is light pollution. Another benefit of using a popular astronomy location is that the police or local authorities will be accustomed to after-dark activities at the site. Otherwise the police might become suspicious of your radio activity. (I once was asked to leave a coastal location, because the police didn't understand what I was doing, and thought I might be communicating with drug-running boats offshore.)

The idea behind a mini-DXpedition is to find a location that's convenient and relatively close to home, so you can visit often with minimal impact on daily activities or responsibilities, such as family and work.

Once a potential location has been found, it's worth qualifying the site with a daytime visit, just to become familiar with the surroundings, determine how often the site might be frequented, and listen on the car radio for potential noise problems. If the site is littered with empty beer cans, then it might be a favorite hangout of local rebel rousers and therefore unsafe for DXing, especially if you're alone. Seashore locations or a site where Beverage-length wires can be used will be most desirable, although any location away from noise will be an improvement. For urban apartment dwellers, even a city park or a mall parking lot can be a big improvement over the present situation.

Next, think about what you'll need for a mini-DXpedition. Then test drive your setup at home before embarking, just to make sure it works. Most importantly, test the receiver and con-

nection to the cigarette lighter. Before plugging in a receiver, it's best to check that the polarity of the cigarette lighter power cable matches the receiver's 12 volts DC input connections. Refer to your receiver instruction manual for the proper polarity, and use a voltmeter to check the cigarette lighter cable polarity before plugging it into the receiver. Reverse polarity may cause irreparable damage to your receiver.

A couple of flashlights are important for obvious reasons. Don't forget paper and a couple of pens and pencils for logging stations. Reference materials such as the *World Radio and TV Handbook*, and the *NRC AM Log* will be needed to identify stations that you normally wouldn't hear at home. Bring a tape recorder to capture difficult loggings for review later at home. Try DXing for a couple of hours at night in your driveway or parking lot just to make sure you didn't forget anything, and then create a checklist for the real thing to ensure that nothing is forgotten. Consider the environment of the site too, and add extra clothing, bug repellent, or protection from the elements as deemed necessary.

The All-Important Antenna

Aside from the receiver and site selection, your antenna is critical to a successful mini-DXpedition. Don't expect to obtain good results with a mediumwave loop antenna inside the car. The antenna must be located *outside the car* for the best performance. A simple insulated wire antenna of anywhere from a hundred to over one thousand feet in length will do the job in most cases. An antenna tuner may help in cases where an extremely long wire results in receiver overload. If you use an air-core or ferrite loop antenna, try mounting it on a camera tripod or microphone stand, so it can be positioned outside the car within reach for tuning or changing direction. Loop antennas can also be tuned by remote control, using varactor technology in which capacitance is changed by applying a DC voltage. Plans for varactor tuning circuits, along with phasing units and other homebrew mediumwave antenna projects are available through the National Radio Club, P.O. Box 5711, Topeka, KS 66605-0711.

The Era Of Advanced DSP Receivers Is Here!

Get ready for a new wave of high-end receivers to hit the market, taking advantage of the latest in digital signal processing (DSP) technology. The long awaited Japan Radio NRD-545 finally received approval from the FCC for sale in North America. While there were initially some problems reported with poor selectivity in the first of these receivers to arrive from the factory, Japan Radio has been working on improvements with software revisions.

DSP receiver design allows for most of the functionality and performance to be achieved through software control rather than hardware. Thus, upgrades are implemented simply by replacing a ROM with one that is programmed with the latest software. One of the unique features of the NRD-545 is that it

receives Motorola C-QUAM AM stereo.

Kneiser & Doering Elektronik GmbH of Germany is introducing a new DSP receiver, the KWZ 30. This receiver is extremely simple to operate. The only controls are a volume knob, a main tuning/adjust knob, and a 4 x 5 keypad. All functions are displayed on a large backlit LCD display. There are nine IF filter selections from 0.5 to 9.0 kHz. The AGC can be custom tailored with separate adjustments for attack, hold, and release.

George Zeller gave me an opportunity to test drive this receiver. It performed admirably on mediumwave. The depth of available user controls was impressive (another advantage of DSP design). It was noted that the passband tuning was not available in AM mode due to the detection/demodulation DSP scheme, but passband tuning worked well in sideband modes for ECSS reception. A BNC jack is used for the antenna input. It will be interesting to watch how well the new DSP technology is accepted by DXers, and if other manufacturers jump on the bandwagon.

The Real X-Band Pioneers

Speaking at the Boxboro Hamvention in Massachusetts, Al Weiner declared that pirate radio stations were the real pioneers of the X-band. Weiner was one of those pioneering pirates with his Radio New York International, which attempted to broadcast on 1620 kHz from a ship in international waters off the coast of New York in the mid-'80s. Since then, diligence finally paid off for Weiner in his attempts to establish a commercial station on shortwave. After a 13-year struggle with the FCC, Weiner now owns a licensed commercial shortwave station, WBCQ "The Planet" on 7415 kHz in Maine. FCC rules for shortwave broadcasting in the U.S. require that the station beam its signal to foreign listeners with a minimum power of 50 kW. The Planet beams its signal 245 degrees off true, southwest to Mexico. Future plans for The Planet includes a Ku-band satellite link.

QSL Information

657, 2YC Wellington, New Zealand, received full-data card with tourist info in 15 days for a taped report and \$1, signed Adrian. Address: P.O. Box 123, Wellington. QSL #100 from New Zealand! (Martin-OR)

Broadcast Loggings

In this month's selected loggings, there is evidence that increasing solar activity is impacting mediumwave reception, as Patrick Martin reports hearing Australia and New Zealand "all over the dial" in one of the best down-under BCB openings in many years, and Jean Burnell makes some good South American catches. Mark Connelly and Gary Thorburn report the results of a mini-DXpedition at the Parker River NWR site in Rowley, Massachusetts.

Thorburn submitted the following colorful account:

"I had built an amplified, tuned 2.5 foot box loop, fitted it to the top of a tripod, and at Mark's suggestion, recently added a simple varactor circuit so I could tune it remotely. I also had picked up a big spool of wire at the last Deerchester flea. Away from the electrical noise of my home, I made a pre-expedition to my backyard. No space for a really long wire, but the loop worked fine, separating out domestic stations. Still, the TA split frequencies offered only a few quiet hets. We trekked out the lonely dirt track off route 1A, which ends at a parking lot on the edge of the Parker River National Wildlife sanctuary. It's a popular site with birders who binocularize from the parking area out into the marsh,

AM EXPANDED BAND RADIO STATIONS ON THE AIR

Freq.	Station	Location	Remarks
1610	CHEV	Toronto, ON	Special events station
1620	KSMH	Auburn, CA	Catholic talk
	KYIZ	Renton, WA	R&B music
	WPHG	Atmore, AL	Gospel music
1640	KDIA	Vallejo, CA	R&B oldies
	KKYJ	Lake Oswego, OR	Religion
	WKSH	Sussex, WI	Gospel music
1650	KKTR	Costa Mesa, CA	Traffic reports
1660	WBAH	Elizabeth, NJ	Radio Unica Spanish
	KXOL	Brigham City, UT	Nostalgia
1670	WNML	Warner Robins, GA	Sports
	WTDY	Madison, WI	Talk
1690	KQXI	Arvada, CO	Radio Disney
	WMDM	Lexington Park, MD	Talk
1700	WCMQ	Miami Springs, FL	Spanish
	KBGG	Des Moines, IA	Business news

or walk further into it along a due-east dirt road which ends at Nelson Island, the last clump of trees before the marsh becomes the Parker River. This minor river drains a few hills that the last glacier deprived of an outlet to the nearby Merrimack. But, it expands into a broad estuary between us and Plum Island, probably the most northerly true barrier beach on the East coast. The Parker River sanctuary comprises much of the estuary and Plum Island. Beyond Plum Island lies the open Atlantic Ocean.

I parked facing east, and as dusk settled I walked further eastward down the dirt road into the humid gloom with a spool of 1000 feet of hamfest-grade wire. A technophobe heron took wing, and a few kildeer relayed panic signals among themselves. I strung my wire along the edge of the road, trying to keep it atop the marsh grass for a few inches of height. The spool ran out about a third of the way to Nelson Island, and I returned to the parking lot and set up my other antenna, the amplified remotely tuned loop.

By this time, a few birders were returning from the dusky marsh to their cars, and inquired about our activity. We explained as best we could. Actually, there are many similarities between the two hobbies, both birders and DXers share the urge to log rare catches, and sometimes travel to remote spots with exotic equipment to do it.

Soon the hets came alive with audio, and I was hearing transatlantic DX. I was thrilled to hear what Mark and Bruce find to be ordinary logs. I nabbed one pretty clear signal and shouted to Mark, "549, is that Algeria?" He responded "Yes," and I felt great for about five seconds. Then my bubble burst. I hear Mark saying to Bruce, "I think there's something interesting on 549, but it's getting totally clobbered by that killer Algerian!" Using an unterminated wire and a bi-directional loop, I wrestled with more QRM off the backside of my antennas than did Mark with his new phased broadband loop/whip combo, which provides a cardioid pattern. The signal level and reduced QRM that he could produce just blew away the best signal quality I could muster, using an identical Drake receiver. Still, I was quite pleased that my loop did as well as it did. I compared it constantly with the 1000-foot wire, and in the range that it tunes (about 400-1800 kHz) it was usually almost as good as the wire. In particular, my simple amp, comprised of a MC1490 chip and about three non-critical discrete parts seems a quiet and effective way to match a loop to a 50-ohm receiver. I may make further use of it in another antenna.

My evening ended late, behind a glowing ersatz dial, enjoying half familiar British rock from Virgin Radio on 1215, and the remains of an illicit sweet snack in the dark night. I thought about the other end of my wire, invisible in a swamp, 1000 feet, but transporting me thousands of miles. It was time to go home. I shut down the radio and my ears readjusted to the quiet marsh in front of me. I stepped out into the dank air and followed the wire to the far end of my antenna."

Seeking Permits To Construct New FM Stations

AL	Heflin	91.7 MHz	
AL	Monroeville	88.9 MHz	
AL	Montgomery	91.5 MHz	
AR	Eureka Spgs.	88.9 MHz	
AR	Marked Tree	90.1 MHz	
AZ	Kingman	91.9 MHz	
CA	Dorrington	89.1 MHz	
CA	E. Sonora	89.5 MHz	
CA	June Lake	90.9 MHz	
CA	Lakeport	88.1 MHz	
CA	Laytonville	88.5 MHz	
CA	Redwood Valley	88.1 MHz	
CA	San Andreas	89.3 MHz	
CO	Colona	89.7 MHz	
CO	Hayden	89.7 MHz	
CO	La Junta	89.1 MHz	
CO	Mountain Vlg.	90.7 MHz	
CO	Strasburg	97.7 MHz	
CO	Telluride	90.7 MHz	
FL	Favorita	91.1 MHz	
FL	Key West	88.3 MHz	
FL	St. Catherine	89.3 MHz	100 watts
FL	Webster	89.3 MHz	
GA	La Grange	91.9 MHz	
GA	Lincolnton	89.9 MHz	
HI	Kilauea Town	91.9 MHz	(KAQA booster)
HI	Pahala	90.5 MHz	1 kW
IA	Waverly	89.9 MHz	
IL	Dorsey	89.5 MHz	
IL	Pana	89.3 MHz	500 watts
IL	Petersburg	88.1 MHz	500 watts
IL	St. Louis	89.5 MHz	
IL	White Hall	88.3 MHz	1 kW
IN	Attica	91.5 MHz	100 watts
IN	Nashville	90.3 MHz	8 kW
IN	Rochester	88.5 MHz	250 watts
IN	Veedersburg	88.5 MHz	
KS	Emporia	89.7 MHz	
KS	Emporia	90.7 MHz	3 kW
KY	Tyner	89.3 MHz	3 kW
LA	Sulphur	89.1 MHz	4 kW
MI	Iron Mountain	91.5 MHz	
MI	Ironwood	88.1 MHz	
MI	Jackson	89.3 MHz	
MI	Monroe	88.1 MHz	10 kW
MI	Traverse City	91.5 MHz	4.4 kW
MN	Austin	90.1 MHz	
MN	Lanesboro	88.5 MHz	
MN	New Ulm	88.3 MHz	500 watts
MO	Farmington	88.9 MHz	
MO	Kennett	88.9 MHz	
MO	Perryville	89.1 MHz	1.5 kW
MO	Poplar Bluff	88.7 MHz	
MS	Columbus	90.5 MHz	
MS	Waynesboro	89.7 MHz	
MT	Kalispell	88.7 MHz	100 watts
NC	Elizabeth City	88.3 MHz	
NC	Scotts Hill	88.3 MHz	4 kW
NE	Grand River	91.9 MHz	
NE	Hastings	90.9 MHz	
NM	Cloudcroft	88.9 MHz	100 watts
NV	Owyhee	88.5 MHz	
OH	Delphos	91.5 MHz	5.3 kW
OH	Sandusky	88.5 MHz	
OH	Springfield	89.1 MHz	
OH	Urbana	89.1 MHz	
OR	Cave Junction	88.7 MHz	
OR	Hood River	90.3 MHz	
OR	Redmond	88.9 MHz	
OR	Roseburg	88.3 MHz	950 watts
PA	Bellefonte	88.5 MHz	
PA	Carbondale	90.9 MHz	
PA	Markleysburg	89.1 MHz	
PA	Meadville	91.9 MHz	6 kW

SD	Pierre	89.1 MHz	
TN	Ethridge	90.9 MHz	
TN	Sneedville	88.5 MHz	
TX	Aransas Pass	88.1 MHz	6 kW
TX	Beeville	91.3 MHz	1 kW
TX	College Station	89.9 MHz	8.5 kW
TX	Dripping Springs	91.9 MHz	
TX	Eastland	91.1 MHz	25 kW
TX	Gonzales	88.1 MHz	5 kW
TX	Harlingen	89.9 MHz	
TX	Mertzon	91.9 MHz	
TX	Midland	90.1 MHz	
TX	Natalia	90.3 MHz	
TX	Sealy	90.7 MHz	
TX	Stephenville	89.7 MHz	6 kW
UT	Logan	90.5 MHz	
WV	Princeton	90.1 MHz	2 kW
WV	So. Charleston	89.3 MHz	
WY	Casper	89.1 MHz	
WY	Cheyenne	88.1 MHz	40 kW
WY	Gillespe	88.9 MHz	430 watts
WY	Jackson	88.7 MHz	
WY	Sheridan	88.9 MHz	

Granted Permits To Construct New FM Stations

CA	Fremont	105.7 MHz	(KARA booster)
CA	Sunol	105.7 MHz	(KARA booster)
GA	Cordele	90.3 MHz	
MD	Columbia	93.5 MHz	(Exper. DAB)
MO	Park Hills	91.1 MHz	
MO	Van Buren	91.3 MHz	
OR	Altamont	97.7 MHz	
TX	Brownwood	89.3 MHz	

Cancelled

KAOA	New Orleans, LA	96.5 MHz	3.6 kW
KCGX	Broken Bow, OK	90.9 MHz	2.5 kW
KLVA-1	Phoenix, AZ	105.5 MHz	43 kW (booster only)
WCNE	Batavia, NY		
WGKP	Rensselaerville, NY	89.9 MHz	340 watts
WRDJ	Roanoke, VA	104.9 MHz	3 kW

Seeking AM Facility Change

KLMS	Lincoln, NE	1480 kHz	Seeks reduced power
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Changed AM Facilities

KMCA	Burney, CA	1450 kHz	Changed city & power
WCPK	Chesapeake, VA	1600 kHz	Reduced power
WMTI	Morovis, PR	1580 kHz	Increased day pwr to 10 kW

Seeking FM Facilities Changes

(new)	Midwest, NY	107.9 MHz	Seeks change to 107.7 MHz
KTKY	Refugio, TX	106.1 MHz	Seeks change to 106.5 MHz
WAXU	Troy, AL	91.1 MHz	Seeks to change frequency
WCIK	Bath, NY	103.1 MHz	Seeks non-commercial status
WGZO	Parris Island, SC	92.1 MHz	Seeks changed frequency

New AM Call Letters Issued

KTBK	Sherman, TX
WBDO	Palm City, FL
WHITE	Johnson City, FL

Changed AM Call Letters

New	Old	
KDYA	KXBT	Vallejo, CA
KKLF	KDSX	Denison, TX
KKTR	KGXL	Costa Mesa, CA
KRCM	KWBK	Beaumont, TX
KUPN	KCAZ	Mission, TX

Changed AM Call Letters (Cont.)

KVNR	KWIZ	Santa Ana, CA
KXFS	KXSP	Ventura, CA
KYAK	KGER	Yakima, WA
WAAT	WMXH	Olyphant, PA
WDID	WSHY	Shelbyville, IL
WHCG	WMAC	Metter, GA
WEZO	WBBF	Rochester, NY
WVCV	WJMA	Orange, VA

New FM Call Letters Issued

KBFR	Bridgeport, TX
KBFU	Ball, LA
KBFV	Carlsbad, NM
KBFY	Lakeview, AR
KBFZ	Kimball, NE
KBGI	Alexandria, LA
KBGJ	Marble Hill, MO
KBGL	Larned, KS
KBGM	Park Hills, MO
KCYT	Lead, SD
KINZ	Humboldt, KS
KKZQ	Tehachapi, CA
KLMZ	Stamps, AR
KMKP	Honolulu, HI
KQLV	Grants, NM
KRVK	Midwest, WY
KRXY	Shelton, WA
WD2XAB	Columbia, MD
WLRI	Rushville, OH
WLXP	Savannah, GA
WMRZ	Cuthbert, GA
WSRV	Deltaville, VA
WTLI	Bear Creek Twp., MI
WXXE	Fenner, NY
WWND	Raleigh, NC
WZSP	Nocatee, FL

Changed FM Call Letters

New	Old	
KBNF	KCMT	Chester, CA
KCYO	KCTG	Ozark, MO
KEOT	KZEZ	St. George, UT
KGER	KYAK	Quincy, WA
KISF	KEDG	Las Vegas, NV
KJHA	KBDV	Houston, AK
KLCI	KSLI	Princeton, AR
KLTN	KKPN	Houston, TX
KOVE-FM	KLTN	Port Arthur, TX
KQBT	KKIK	Taylor, TX
KQQQ-FM	KIKY	Hutto, TX
KRTX-FM	KOVE-FM	Winnie, TX
KSNX	KVWM-FM	Show Low, AZ
KTRQ	KQMC-FM	Brinkley, AR
KWIZ	KWIZ-FM	Santa Ana, CA
KYSY	KMXD	Ankeny, IA
KZEZ	KFMD	Delta, UT
KZIA	KXXM	Cedar Rapids, IA
WBBF	WKLX	Rochester, NY
WBQW	WPKM	Scarborough, ME
WDPR	WQRP	W. Carrollton, OH
WHCG-FM	WHCG	Metter, GA
WIRE	WWRE	Lebanon, IN
WJCG	WMBY	Monee, IL
WKIB	WRAJ-FM	Anna, IL
WKXH	WNKV	St. Johnsbury, VT
WKZS	WCDV	Covington, IN
WLLD	WISP	Holmes Beach, FL
WQIX	WQBB-FM	Knoxville, TN
WQRP	WDPR	Dayton, OH
WTRV	WQFN	Walker, MI
WVJZ	WVGN	Charlotte Amalie, VI
WXST	WLYR	Delaware, OH
WYJZ	WIRE	Lebanon, IN
WYSX	WZEA	Ogdensburg, NY
WZKT	WESA-FM	Charleroi, PA

Mark Connelly provided the following log summary from the Parker River mini-DXpedition, a testament to what can be achieved from a remote coastal site. **2324-2359:** Senegal-765, Algeria-1550, Canaries//Spain-1179, Spain-1296, Algeria-981.

0000-0059: Spain-1602, Germany-1422, Spain-1305, Bermuda-1160, Spain-1107, Spain-1044, Spain-954, Croatia-1134, Spain-1134, Spain-1143, Spain-1152, UK-1089, Spain-1071, UK-1053, Spain-756, Venezuela-670 mix w/ Newfie C&W, Ireland-567.

0100-0159: Morocco-1188, Algeria-891, Azores-837, Azores-693, Spain-792, St. Vincent-705, Spain-684, Venezuela (Mundial)-880, Morocco-819//207, Spain-729, Spain-738, Spain-774, Spain-648, Spain-639 Canaries// Spain-621, Spain-603, Portugal-594, Spain-585, Algeria-549//153, St. Kitts-555.

0200-0225 UTC: Portugal-666, UK-909, Portugal-963, Spain-999, Spain-1116, Germany-756, Spain-1224. (Connelly-MA)

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

531 2MC W. Kempsey, Australia, very good with some talk show and an ID "5-31 2MC" at 1345. (Martin-OR)

540 4QL Longreach, Australia, good at 1400 with ABC News. (Martin-OR)

540 2AP Apia, Western Samoa, good with Samoan talk under/over domestics at 0801, best heard in many months. (Martin-OR)

549 2CR Orange, Australia, fair in KMVI splatter with ABC news at 1402. (Martin-OR)

558 7BU Burnie, Tasmania, Australia, fair in splash with woman saying "7BU." This has been fairly regular of late in the mornings at 1340. (Martin-OR)

570 R.Imperatriz (ZYH890), Imperatriz MA, Brazil, with "Radio Imperatriz AM" ID, then ad string; not sure if a very good fade-up at 0031 with Brazilian ballads was this or a Ceara station; some splatter from VOXM (590). (Burnell-NF)

585 2WEB Bourke, Australia, good on top of presumed 7RN (sounded parallel to 576), with a woman announcer mentioning "The Outback, 2WEB" at 1342. (Martin-OR)

603 2RN/2CH Nowra/Charleville, Australia, both here at 1410, was trying to get details on 2CH, but too weak under 2RN. (Martin-OR)

650 R.Universal, Santo Domingo, Dominican Republic, heard at 0610 fair; "Mas musica, Universal!" jingle and high-energy merengue music. (Conti-NH)

660 R.Bom Jesus AM (ZYH480), Bom Jesus da Lapa BA, Brazil at 0053 ads. "Bom Jesus AM" jingle and more ads, under St. Lucia, and with another Brazilian lurking. (Burnell-NF)

666 RFO Noumea, New Caledonia, good with island music and man in French, some French pops at 1325. This one seems better than they used to be. (Martin-OR)

690 R. Recuerdos, Bogota, Colombia at 0530 fair; "Doce treinta minutos en Radio

Recuerdos" time check, ranchera-style vocals. (Conti-NH)

693 Radio Sport, Dunedin, New Zealand, good at 1335 with sports news from 540-Florida. If anyone hears this overnight program on one of the many Radio Sport stations, don't be surprised, as they now run the 540-Florida sports network. Radio Sport is partly owned by Clear Channel-U.S. (Martin-OR)

702 2BL Sydney, Australia, very good, like it was across the street, could even hear the transmitter hum at times, with ABC list of programs coming up at 1259, way over Radio Pacific-New Zealand. (Martin-OR)

738 RFO Papeete, Tahiti, good with man in French at 1415. (Martin-OR)

801 2RF Gosford, Australia, good with man in Italian at 1411. (Martin-OR)

837 4RK Rockhamton, Australia, with bits of ABC program at 1302, in KSWB-840 splash. (Martin-OR)

850 R.Caraiba (ZYH474), Senhor do Bonfim BA, Brazil, 2341-2359 frequency was a mess with at least four signals, including at least two Brazilians; however at 2344, there was a clear promo for something "a Caraiba" before a telephone report, plus there was a muffled ID at 2348 and various mentions of Bahia. (Burnell-NF)

850 R.Net (HJKC), Bogota, Colombia at 0306, ads. "Futbol de Colombia esta en Radio Net," more ads. (Burnell-NF)

850 R.Fe y Alegria (YVZC), Maracaibo, Venezuela at 0001, ads, reports from the "campeonato venezolano de futbol de salon," and many IDs, over the Brazilians. (Burnell-NF)

1070 R.El Mundo (LR1), Buenos Aires, Argentina at 2328, completely dominant with Spanish talk. (Burnell-NF)

1070 R.Cultura (ZYH643), Paracuru CE, Brazil at 2303, clear ID then mellow Brazilian ballad; QRM from another Brazilian and the rapidly rising signal of R.El Mundo. (Burnell-NF)

1150 R.Bayamo (CMKX), Entronque Bueyato, Cuba, 0439-0500 with Spanish ballads, woman announcer, ID and anthem at 0500. (Burnell-NF)

1380 R.Cadena Agramonte (CMFA), Central Brasil, Cuba, 0313-0400 program of old Latin tunes, s/off ID at 0359. "Patria o Muerte. Venceremos," and anthem, QRM from RCN (1380.02 kHz) and a Venezuelan (Burnell-NF)

1510 R.Difusora do Descobrimento (ZYH493), Porto Seguro BA, Brazil, 2300-2310 ads, sound effects, promo for sports on "Super Radio Difusora do Descobrimento" at 2304, mixing with an unidentified Brazilian. (Burnell-NF)

1670 WTDY Madison, WI at 0015 with call-in show about mortgages and loans, some static. (Wallesen-IL)

This month, our thanks to Jean Burnell, Mark Connelly, Patrick Martin, Gary Thorburn, Elmer Wallesen, and George Zeller, 73, until next month. ■

Tuning In (from page 4)

you're out there! And like you, I also think I'm a pretty good *listener*. We've got to be. After all, if we weren't, we'd only need a transmitter — skip the receiver. We radio folks are a strange lot, aren't we? We *all* talk too much. Get hold of that mic and *never* let go. It kind of reminds me of a telemarketer with a phone, or a Congressional rep with a few minutes of allotted floor time. They rarely have anything really interesting to say, but they sure say a lot — and they get *paid* to talk!

Have you ever just sat back with a donut and coffee (just kidding!) and *listened* to the radio for a while? Shortwave listeners and scanner enthusiasts do it all the time. They're darned good at it too. It's what they do — day after day, night after night — all for the thrill of logging that rare one or hearing that distant broadcaster, plane, ship, or state police or sheriff. So while we're taking stock of ourselves; the good, the bad, and the unusual, do you ever wonder what others think of us radio folks? I do. Think for a moment about the thousands of scanner users out there — homemakers and the like who have never heard of *PopComm*. They just like to listen to the scanner for the police and fire calls. But I'll bet that every once in a while they or their kids fiddle around with the "search" function and tune in hams and CBers. Scary, isn't it?

Now I'm not quite at the point of thinking like George on TV's *Seinfeld*, but I've got to admit, when I'm walking around with a grin on my face after just talking with a ham friend on the repeater with my HT, I sometimes wonder what non-hams think about it all. Are they wondering if I'm onto something? And what is it? You know the feeling, don't you? You're in your own little private world chatting away and suddenly you're in a non-ham crowd or the bus comes and you're still "in touch." A building could collapse in front of you and you're not going to flinch. A real ham continues the conversation undaunted by the crowd, and even gets on the bus while still talking. That's not me. I can't do two or three things at once like that. Pay the fare, listen to your friend on the radio, nod "hello" to the bus driver, find a seat — of course near a window so you can hit the repeater — all this while making sure you're on the right bus in the first place! Talk about dexterity.

Only if we could *talk more* about our great hobby to more *young* folks. The president of the ARRL recently observed

that most hams are senior citizens and that as hams, we're sitting on some pretty valuable radio real estate. There probably couldn't be a better time to go ahead and talk about our hobby to those that don't know. Get them interested. Today. Remember, they don't know because we haven't told 'em.

But don't tell them about the on-air doofuses that ruin an otherwise great hobby. Like driving, they'll find out for themselves in short order. Interestingly, I've found that dealing with unruly radio doofuses is similar to weeding. You've got to keep at it — the right way. The good news is that they make all kinds of weed whackers and chemicals to get rid of weeds. But there's no magic formula for getting rid of radio jerks. But at any one time there are far too many doofuses; illegal operators — pirates, if you will — and all kinds of loud-mouthed solder-for-brains hams and CBers — out there pounding their drum. And then there's the one-in-a-million scanner enthusiast that rushes to the scene of a crime in progress or accident, getting there before the media! It seems to me there are less jerks today than in the past, but they're still out there. And when the media gets hold of one bad apple, they don't let go and we all look bad. That's where you and I come into the picture. Remember, unlike those weeds that need constant attention, the best way to deal with jerks is to *ignore them*. Sooner or later they'll go away and take their linears, noise toys, and foul language with them. Ignoring them worked for me several times this year — at least it made me feel good to ignore them, and to see that other operators did likewise.

Looking At Our Hobby

As we close out the year, it's also a good time to assess our radio hobby. It's time to change with the times. I still believe that despite our over-dependence on the computer and the fascination with the Internet that's supposed to make our hectic lives easier and give us more free time, that we're quickly slipping away from what's important: quality time with family and friends, and time for the simple things. That includes our radio hobby.

While we've got plenty of radio muscle on our side to continue our hobby, from dealers and manufacturers to our most important commodity — you, our readers, we need a *renewed interest* — a *second wind, if you will* — in all things radio. So as you assess yourself and your

place in the radio hobby, ponder these thoughts, please. And while you're at it, think about how many times *you've* sent in loggings to our columnists, mailed photos or copies of QSLs to us for publication, taken the time to send a friendly letter to an international broadcaster, helped another radio enthusiast put up an antenna or helped a neighbor solve an interference problem (even if it isn't caused by a nearby CBER or ham!), monitored Channel 9, or just listened to the radio and learned something new.

A few years ago during better times, when I'd complain to my old man about having to run a couple of miles in an annual physical training test, he'd grin and say, "Don't worry — you'll get that second wind and just keep going." Now, as 1998 draws to a close and we get within a stone's throw of the millennium, take a deep breath and give the hobby that second wind. This hobby *is indeed* a good thing. Merry Christmas and Happy Hanukkah to you all! ■

Pirate's Den (from page 48)

0120-0141 with "20/20" program; also noted an interval signal at 0111 to 0113. (Silvi, OH)

Voice of the Pigs Ear, 6955 USB at 0223 to 0231 with on and off testing. (Silvi, OH)

WHYP, 6955 USB at 0045 with usual format of court reports and weather reports, many IDs, and E-mail address. (Silvi, OH)

Voice of the Patriot, tentative, 6955 USB at 2350 discussing the U.S. soldier who refused to wear a UN uniform, Clinton definition of anti-terrorism, etc. Also at 0123 discussing Janet Reno, UN treaty, family values. ID as "This is the Voice of the Patriot — Right Wing Radio." And, tentatively, on one other occasion at 0124 with tests. (Silvi, OH)

KBLK (?) on 6955 USB at 2310. Claimed to be KBLK testing a new transmitter, but the announcer seemed different from the previous one. (Silvi, OH)

There were also a lot of unidentified stations heard which I normally don't include, either because of space limitations or lack of specific information which would help someone else pin a name on it.

That wraps it up for this time. Keep those logs headed my way. I can also use photocopies of your recent pirate QSLs, too, for use as illustrations.

Catch you again next month! ■

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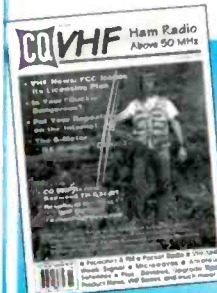
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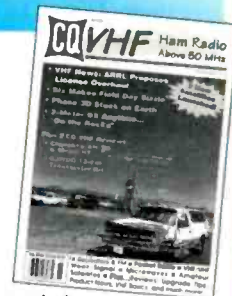
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The Loose Connection

BY BILL PRICE, N3AVY

RADIO COMMUNICATIONS HUMOR

Say "Ham And Cheese"!

Last spring, Norm showed up with some old press-25 flashbulbs. "Here, old man, have a box." I had absolutely no use for them, except to break the glass and play with the magnesium wool. Fun, but hardly worth the time.

"What are you going to do with them?" I asked. "They'll bring a pretty good buck from camera collectors, especially with the boxes intact like these are."

"I'm not going to sell them, I'm going to use them. Didn't I ever tell you about the lake across from my apartment?"

"Well, I do remember Chump driving your car into it," I chided.

"Oh, don't bring that up. The insurance company doubled my rates until I gave them a sworn affidavit saying that I'd never tie his leash to the gearshift again. Anyway, I thought I could map the bottom of it, and sell the maps to fishermen to help support my radio habit."

"How are you going to map a lake with flashbulbs?" I asked. "Simple. I float a big helium balloon over the center of the lake with a wide angle camera hanging from it after dark. I use a radio-controlled shutter release and hold the shutter open while I fire all the flashbulbs on the bottom of the lake."

"You'll give the fish heart attacks! Those bulbs are only good for about a six-foot radius underwater. Do you know how many acres that lake is?" I asked.

"Eighty-seven."

"Do you know how many bulbs you'll need to use?"

"One hundred-eighty-three, gross. 2,196 dozen. I've got two enormous boxes of them — more than 2,300 dozen. Cost me 200 bucks."

I was surprised he'd done the math.

"How do you think you'll get \$200 back by selling maps of a lake-bottom?"

"The fishermen will jump at them for five bucks apiece," he said.

"How're you going to fire the bulbs?"

"I've got over a mile of telephone hookup wire saved up." I did some quick button-pushing. "To space the bulbs 12 feet apart on an 87-acre lake you'll need about 126 miles of wire? I've seen you tangle 100 feet so bad that you almost

swore off ham radio trying to put up that G5RV antenna. You'd have to lay the stuff out in an 87-acre field, solder 24,000 flashbulbs to it, then get it into the lake without tangling it. It'll weigh about 2,000 pounds, and have 48,000 solder joints. What'll you fire it with — a nuclear reactor?"

"OK! I'll start small. I'll build a wire grid with bulb sockets and shoot the whole thing in little segments. With the camera closer and concentrated on about a 100-foot square, I'll get better resolution than shooting the whole lake at once."

"That's *much* more manageable. If you can keep from tangling it, you'll be ready for your first shot in a month — and you'll only have about 380 more shots to go. You'll be 77 when it's done. The lake will probably be drained and filled and have a shopping center on it."

"Alright already. I'll just take some underwater pictures to see where the fish are. I've got the helium and the weather balloons, the radio-controlled shutter-release, and the flash bulbs. We can get started tonight."

"Uh—we?" I asked.

"Yeah, we. Are you my friend, or not?"

"Sure. Why not?" Someone *had* to be his friend. "Let's start out with about 36 bulbs in a 72-foot square. Will that balloon really lift your Minolta? It's a pretty heavy camera."

"We'll test it. Let's go to my place."

The neighbors in Norm's apartment complex watched us lay out a big grid of wire on the lawn, twisting and soldering flashbulbs every 12 feet, tripping and tangling as we went along.

"Did I show you the boat?" Norm asked. "It's in the living room." I shuddered. I wandered in. There were 16 blue, plastic "drums" and a 4 x 8 sheet of 1/2-inch plywood. I picked up a broad indelible marker and wrote "HMS TITANIC" on one corner of the board."

"It won't hold me." I told him when I got back outside.

"That's OK, you'll be working from shore. I'll be in the boat," Norm said.

"Do you have oars?" I asked.

"Something better. I've got a motor."

This would be the big one. "What kind of motor?" I asked.

"Electric trolling motor. I can use the car battery to power it."

"That battery barely starts your car. You need a deep-cycle marine battery."

"Naaaah. I've got a windshield-wiper delay switch that'll run the motor just long enough to get the boat up to speed, then cut and let it drift to a stop before applying power again."

"Can it handle the current of your motor?" I asked.

"Got a relay. No problem."

Two nights later I stood on shore, ready to trip the radio-controlled shutter on the camera dangling 30 feet above the raft. Two of the drums were already drifting behind the raft, but the others looked as if they might stay put. The motor was clamped to the board, and the battery from Norm's station wagon was held in place by nails driven into the board around it.

He made eight passes back and forth, laying out the wire with the bulbs, weighted so they'd drop to the bottom. The boat surged ahead for 10 seconds, then drifted to a stop in about 20 more. The motor was quiet, and I could hear the relay chatter.

On Norm's command, I'd hold open the shutter while he fired the flashbulbs by laying the wire across the battery posts.

"Open the shutter," he ordered. I did. Somehow the brief, but intense drain on that weakened battery caused the wiper delay to trigger the motor relay, dumping Norm neatly over the stern and into the glowing water. He cursed a little, but kicked his way to shore pushing the raft ahead of him.

It doesn't show any fish, but the picture of Norm's water-ballet is beautiful. I've sold 20 copies to his neighbors and an 8 x 10 to the local paper (for \$50!). I'll sell the rest of the bulbs through a camera-collector friend, and Norm has given the raft to some neighbor kids.

He just got a deal on a hundred surplus parachutes — real silk, he thinks. While he's thinking of airlifting food to some impoverished third-world nation, I'm calling dress factories. ■



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