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JUNE 1998

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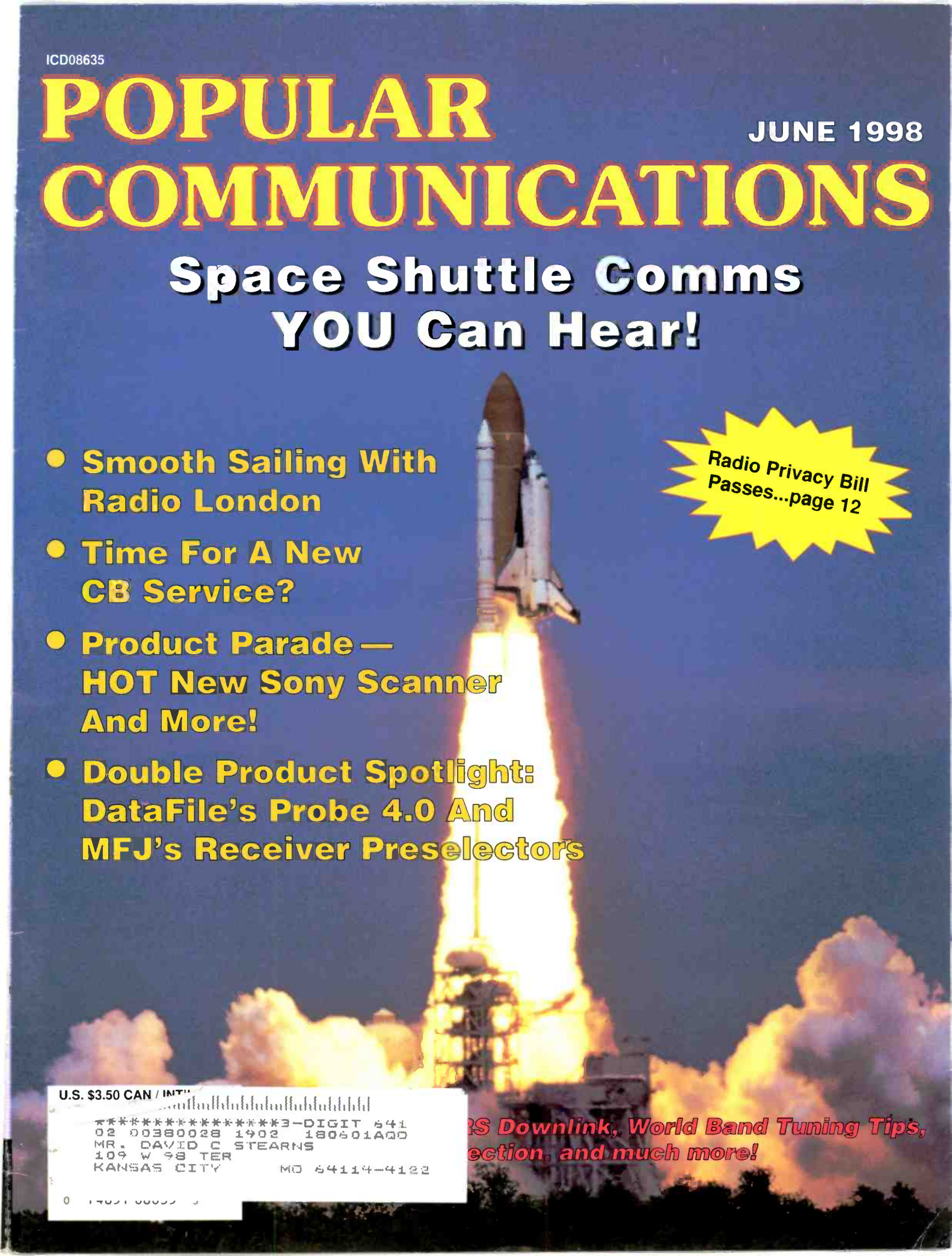

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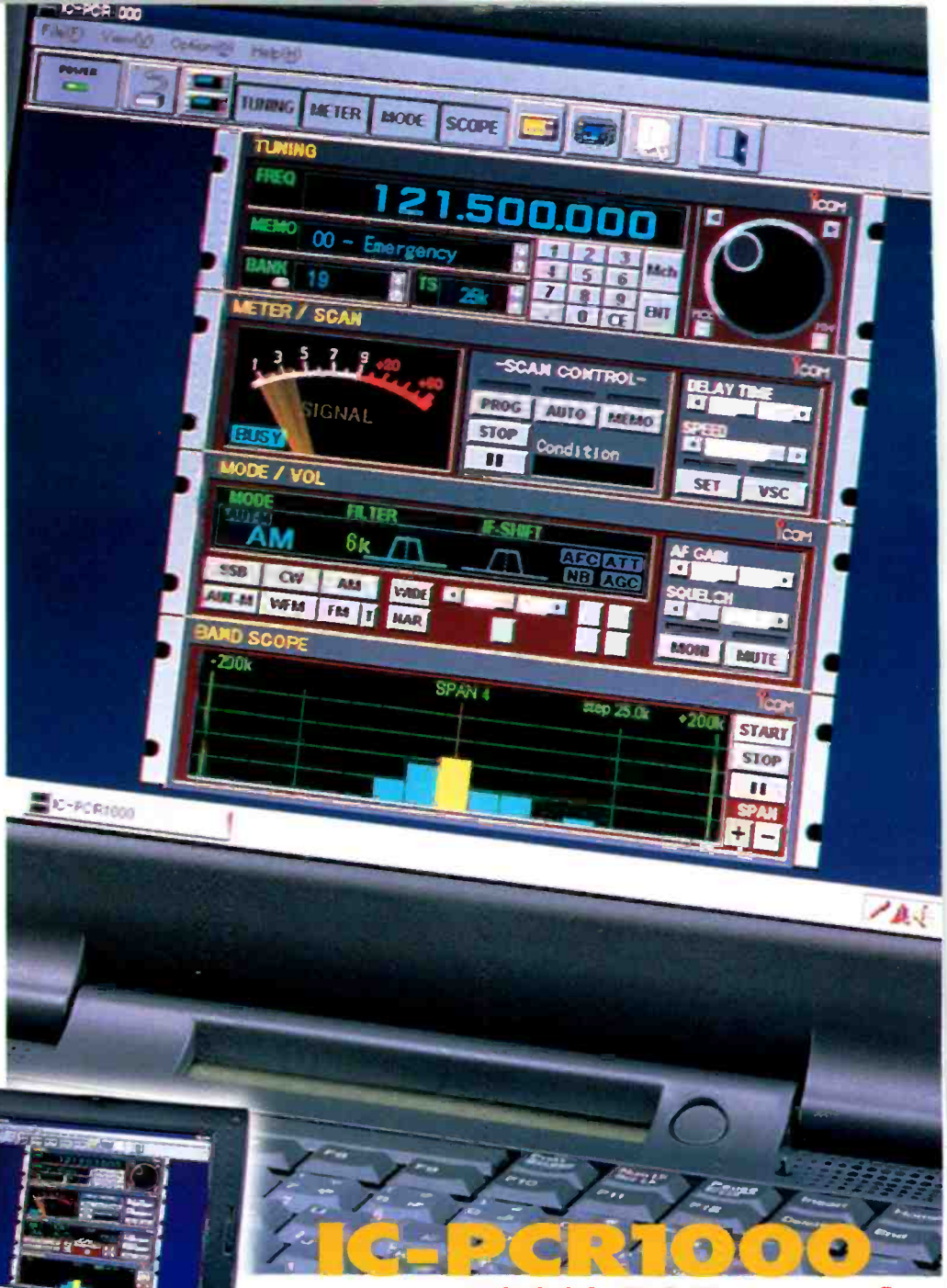

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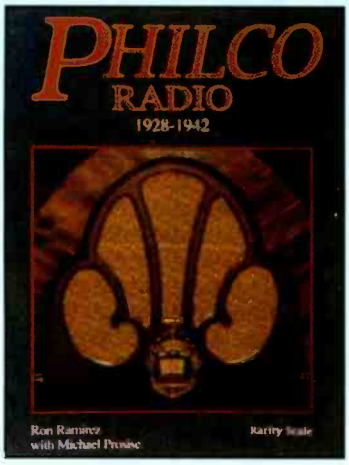

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Tuning In

AN EDITORIAL

BY HAROLD ORT, N2RLL, SSB-596

One Vote Speaks Loud And Clear!

You knew it would happen. It was only a matter of time. Sure enough, H.R. 2369, "The Wireless Privacy Enhancement Act of 1997" made it through the House Commerce Committee. Now it's on to the Senate for a vote. And while it's not *great* news for otherwise law-abiding American citizens, those with or without scanners, it *could* have been much worse. You'll recall the original wording of this ill-conceived piece of legislation penned by Rep. Billy Tauzin would have put the brakes on the scanning hobby — not just the brakes, mind you, but there would have been the force of a sudden stop, with rubber left on the scanning highway!

The re-written version of H.R. 2369 that passed was a much watered-down version of the original bill which, according to Rep. Tauzin, extends "the right to privacy in the digital age." He said, "We in government ought to do everything we can to protect that expectation of privacy. That is what this bill is about." Horsefeathers. H.R. 2369 is *really* more about the day-to-day business in Washington of talking money. The money that's talking this time is, of course, Tom Wheeler's Cellular Telecommunications Industry Association and other cellular industry providers.

Truth is, it's all about layers and layers of laws designed to protect cell users, and give them a "sense" of privacy in an age when Teflon seems to be the beverage of choice in Washington. So now it's OK for Uncle Newt to carry on over his cell phone, and well, if *you* get caught monitoring him, *you're* an instant felon. It doesn't matter that the Electronic Communications Privacy Act of 1986 (ECPA) and subsequent law stripped away the cellular phone portion of the spectrum from scanners. So, Washington being Washington, it makes sense to the politicians to push yet another law down the public's throat, but it doesn't make sense to me. But then again, a lot of things that don't make sense to you or me are perfectly clear once you drive inside the Beltway. But the fly in the ointment is that Washington really doesn't care what 'ol Empty Pockets Harold or Joe Six-Pack has to say, but you can bet your discone that if the likes of Grove, Kneitel, Ort, Barnett, the ARRL, and the dozens of other well-meaning radio hobbyists and organizations had streets and parks named after them, seven-figure bank accounts, and connections to schemesters and insiders in Washington, there would be no H.R. 2369. There would be no ECPA. Money talks. Sad, but true.

Now, of course, in this day and age, it doesn't matter what, if any, scheming Newt, the politicians, or anyone else is doing over the cell phone, it's more important that you, that nasty scanner user *heard* them. And remember: We're a nation of blamers. It's our fault that Newt was overheard allegedly working a weasel deal on his cell phone. Never mind the details of any alleged schemes or how any of it impacts the rest of America, but like a whistleblower in the Defense Department, *you're* the one taken out to the woodshed for having the sense to know right from wrong. Is this in the spirit of our Nation? You've got to admit that all this hoopla about 2369 comes at a strange time in our Country, when values and teaching our kids right from wrong is on everyone's mind. So what do you say to young Johnny when you and he, using your new cellular-blocked scanner inadvertently come across a misplaced cellular signal as you tune your

(Continued on page 77)

"Our hats off to Mr. Paul for having the common sense and insight that his fellow Representatives did not."

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EDITORIAL STAFF
Harold Ort, N2RLL, SSB-596, Editor
(Internet e-mail: PopularCom@aol.com)
Tom Kneitel, K2AES/SSB-13, Senior Editor
(Internet e-mail: K2AES@juno.com)
Edith Lennon, N2ZRW, Managing Editor
Richard S. Moseson, W2VU, Online Coordinator
(Internet e-mail: W2VU@amsat.org)

CONTRIBUTING EDITORS
Richard "RD" Baker, Utility Communications
Ed Barnat, TCA-44, CB SSB
Peter J. Bertini, K1ZJH, Restoration/Electronics
Joe Carr, K4IPV, Antennas
Bruce Conti, AM/FM Broadcasts
Joseph Cooper, Projects and Broadcast Band
Gerry L. Dexter, Shortwave Broadcast
Jock Elliott, SSB-734, Citizens Band
Bob Evans, ACARS
Ed Griffin, Computer-Aided Radio
Chuck Gysi, N2DUP, Scanning
Kirk Kleinschmidt, NTØZ, Amateur Radio
Pat Murphy, Pirate Radio
Don Patrick, CB Restoration
Bill Price, N3AVY, Humor/Communications
Ken Reiss, Technical/Scanning
Edward Teach, Pirate and Alternative Radio
J.T. Ward, Scanning
Gordon West, WB6NOA, Radio Resources
Bonnie Zygmunt, Computer-Aided Radio

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Donald R. Allen, W9CW, Advertising Mgr.
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Elizabeth Ryan, Art Director
Barbara McGowan, Associate Art Director
Edmond Pesonen, Electronic Comp. Mgr.
Dorothy Kehrwieder, Production Manager
Emily Kreutz, Assistant Production Manager
Pat Le Blanc, Phototypographer
Hal Keith, Technical Illustrator
Larry Mulvehill, WB2ZPI, Photographer

A publication of

CQ Communications, Inc.
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Pop'Comm P.O.

LETTERS TO THE EDITOR

Each month, we select representative reader letters for our "Pop'Comm P.O." column. We reserve the right to condense lengthy letters for space reasons and to edit to conform to style. All letters submitted must be signed and show a return mailing address or valid e-mail address. Upon request, we will withhold a sender's name if the letter is used in "Pop'Comm P.O." Address letters to: Harold Ort, N2RLL, SSB-596, Editor, *Popular Communications*, 25 Newbridge Road, Hicksville, NY 11801-2909, or send e-mail via the Internet to <popularcom@aol.com>.

Getting It Off His Chest

Dear Editor:

I have been a shortwave listener for the past 15 years and love this hobby like no other! But something is happening that's beginning to erode this wonderful hobby. Can it be the computer? Is it the hard core ham that fights lifting the CW? I wish I knew the answer.

And I have almost given up on obtaining QSLs from stations. Why? I've been very polite, even enclosing money for return postage. It strikes me that so many countries are beaming English to us, which proves they want us to listen to them, why then do they fail to confirm our reports? It doesn't make much sense.

I am in the very twilight years, so just cannot seem to grasp learning the Morse code. By golly, if they dropped this silly regulation, I'd sell my car to purchase a transceiver. It's certainly tempting to go to CB and do some freebanding. Can you blame me? I wish that someone would really fight this CW thing.

Just re-subscribed to *Pop'Comm*. "RD" Baker is doing a great job on the utilities! Wish you'd give us more info on propagation and when we can really expect to have good DXing back. I'm not writing to see this in print, just getting a few thoughts off my chest that have been bugging me for much too long.

Ralph Larson Sr., MN

Dear Ralph:

Thanks for re-subscribing and for your kind comments. This CW issue you mention is certainly the hottest potato — hotter even than H.R. 2369, it seems. Folks in all age brackets and radio skill levels have mixed opinions; they like it, hate it, really need it, marginally enjoy it, love it, and some can't do without CW. But amid the din of all the comments on this delicate issue, it's still only a matter of time before CW as a requirement for amateur licensing will go the way of cranking your car to get it started in the morning. Oh, sure some folks long for the good ol' days and reminisce that cranking ol' Betsy was "the best of times," but you don't see them complaining when stepping into a toasty-warm sport utility vehicle in the dead of a Minnesota winter. Crank away antique car lovers, but don't ask GM to put one on my new wheels!

I'll take a stab at the reason why you don't get a 100 percent return from your reception reports: money. Sure, the international broadcasters are beaming English all over North America, but if you look at recent trends in shortwave broadcasting, many stations, in order to keep broadcasting, have have cut their staff drastically and been given less government money to run the shortwave outlets. It all boils down to getting the biggest bang for the buck; keep broadcasting and reduce the overhead. One of the first things that seems to get cut is the QSL card department. It's a tough decision. Still there are those stations that, with persistence, will verify your report. Look for an article on this subject real soon by our shortwave QSL expert, Gerry Dexter.

And, Ralph, good — actually great — DXing is just around the corner as the new sunspot cycle gets underway. Stand by for some fantastic DX!

Delivering The Message

Dear Editor:

The March issue of *Pop'Comm* is an example of why I subscribe to your publication. There is something for everyone.

I wish to make a couple of comments regarding your editorial "Life Without Radio." Radio is the greatest communication media, ever. Radio stimulates your imagination. You need to think. It is the most user-friendly communications method since developed language. Radio is affordable to almost everyone, and you are 100 percent correct: this is the message we need to deliver to advance the radio hobby.

Secondly, the article about BCB monitoring is no doubt the most important article of all. It is very fitting that it is the lead item. This is where it starts — promotion of good 'ol U.S. AM radio. We desperately need to get the message out that you don't need to spend your inheritance or the family's grocery money to enjoy and participate in the radio hobby, or have a degree in electronics to be involved in the hobby.

Bravo! *Pop'Comm* came through again. You did good. Thank you. You are a credit to the communications hobby.

Terry Jones, SD

Judging Folks As Individuals

Dear Editor:

I'm a CB radio operator and No-Code Tech, in that order. I purchased 2-meter/440-MHz equipment six years ago . . . . I think the reason ham radio operators dislike CBers is because when you listen to CB radio, quite often you will hear some exceptionally rude, crude comments and . . . obscenities and disrespect, especially toward women.

A lot of No-Code Techs, myself included, have come up from CB radio. Hams associate them ALL with the rude and crude and are afraid they will bring their horrible radio behavior to 2 meters/440 MHz. It's better and more fair to be judged as an individual, but the majority of new No-Code Techs will be labeled and remembered for the radio that they started on.

I love my radio hobby: CB, ham, scanning, and shortwave, but the CB is the first to be turned off when it gets foolish. There's so much more to enjoy.

Jim Ashe, N1IXA

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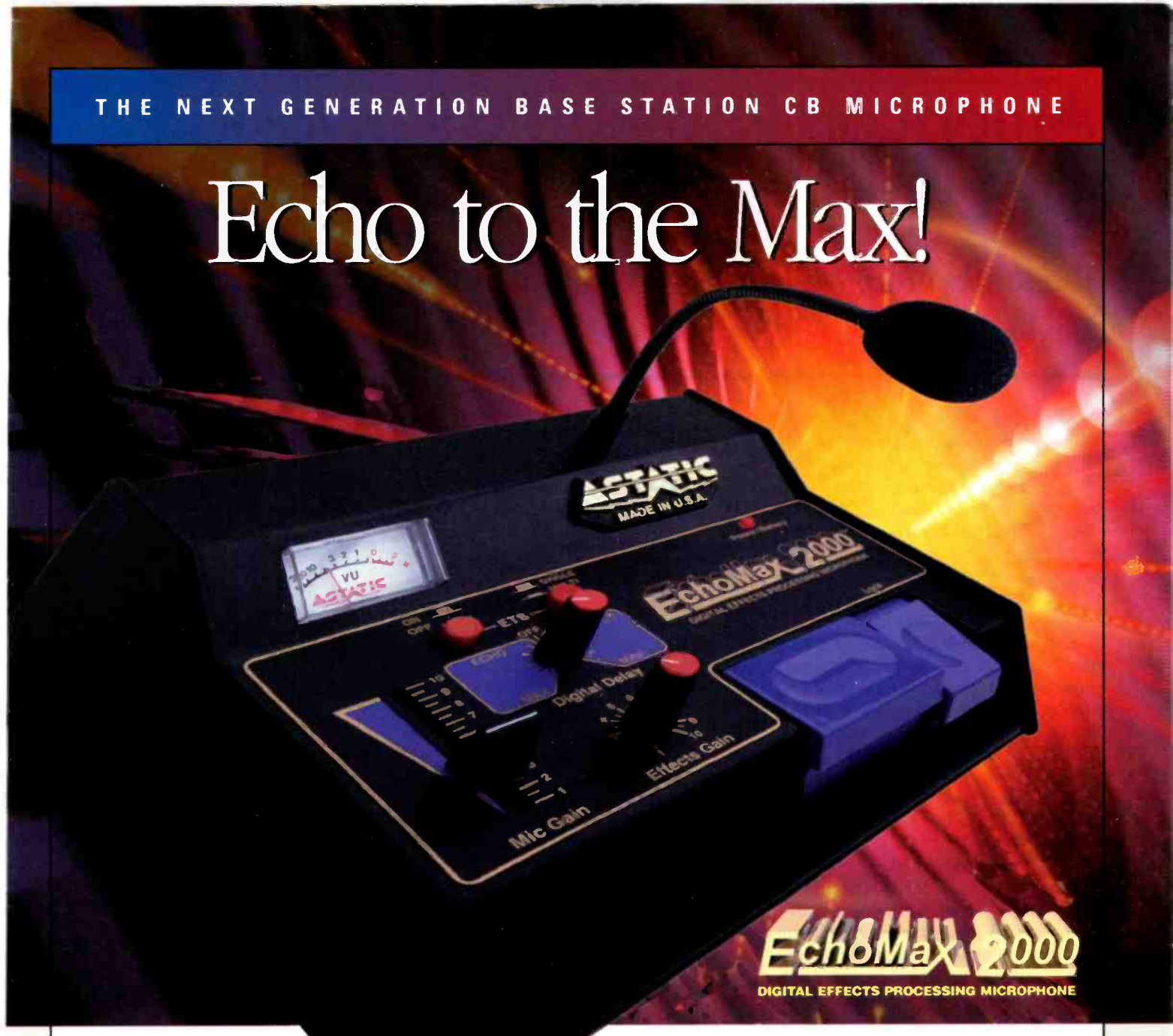

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CIRCLE 160 ON READER SERVICE CARD

American Pop Radio's Invasion Of England

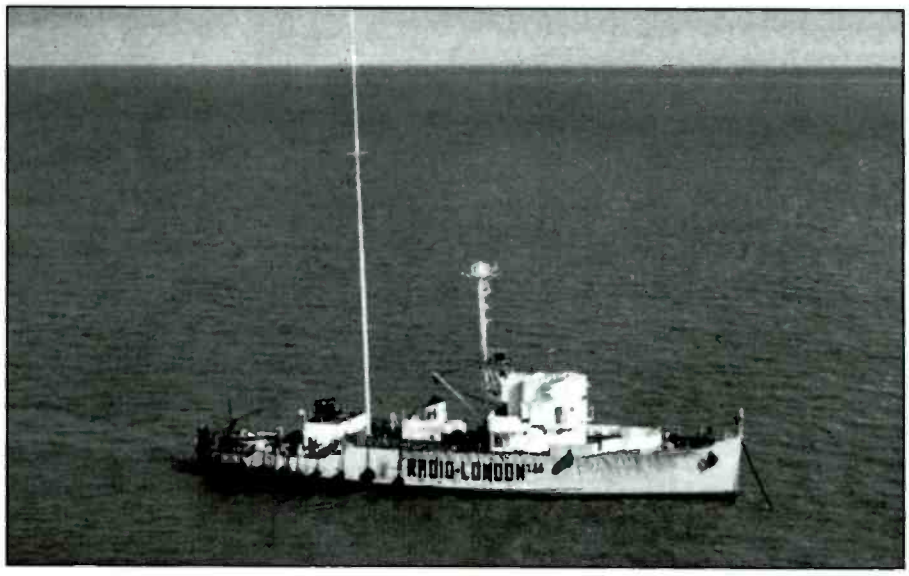
The Station That Never Really Went Away . . .

By Peter Hunn

It was a rumor that spread quickly through the school. And, despite their headmaster's warnings, most of the teenage students just couldn't keep quiet about it. Finally, at dismissal, kids rushed home through the snowy-wet streets of southern England and quickly discovered that the story about picking up exciting music on their radios was true!

That same 1964 afternoon, a young man, some four miles out to sea, played a record which he hoped others could hear. Soon, millions of people smiled at the thought of their new-found radio friend . . . a ship bearing cargoes of the latest pop favorites, real disc jockeys, and bouncy, Texas-made jingles brightly proclaiming: This is Big L, "Wun-der-full Ray-dee-O Lon-don!"

Big L's new medium wave signal added little seasonal spirit for BBC officials. They sternly reminded Parliament that such a station meant nothing wonderful for them, but rather represented a "radio pirate," suitable for quick closure. Even so, every time someone opened a holiday package containing that era's most trendy gift, a pocket-size transistor receiver, Radio London seemed to get bigger.

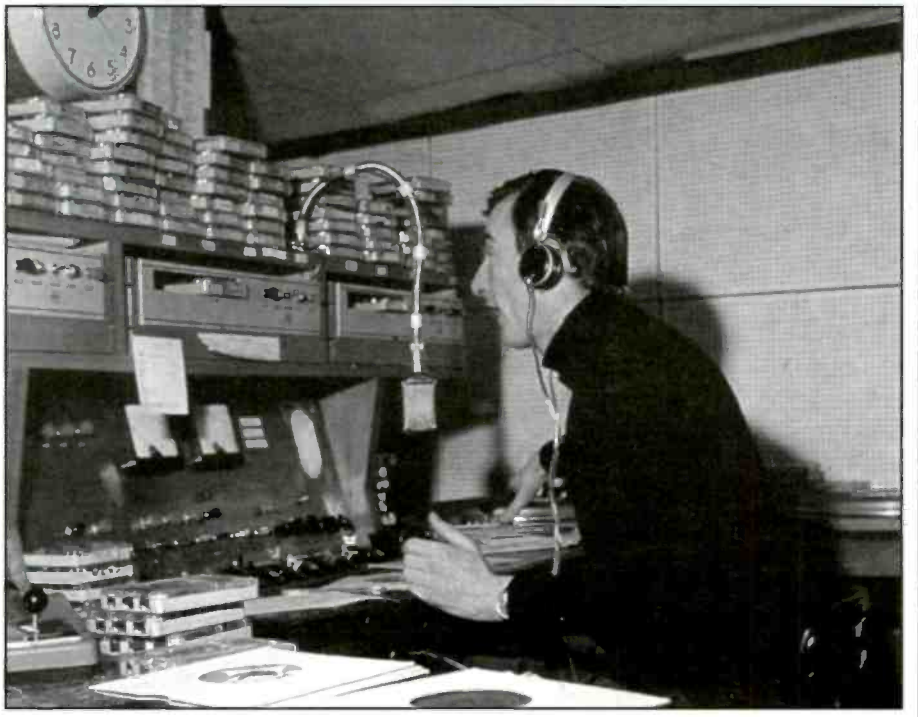


"Big L" fans seeking a picture of their favorite ship sent away for the 1966 Radio London postcard. The Galaxy *was anchored at the bow. One especially rough night, the waves pulled her up so high that the anchor chain snapped. (Courtesy of East Anglia Productions)*

Not Europe's First Pirate

To be fair, the "Big L" wasn't Europe's first pirate broadcaster. During the late 1950s, ship-based commercial radio transmitted to a mass-appeal Danish audience. Like the rest of this period's unauthorized broadcasts, however, the patter was in a tongue other than the King's English. Then, circa 1960, a Dutch ocean-going pirate, Radio Veronica, decided to do a few hours of pop music programming directed at Great Britain. An impressive roster of advertisers made Veronica's cash register ring. This hit a chord with an entrepreneurial Irishman who leased an old ferryboat, rigged it for AM, and started broadcasting with the identification Radio Caroline (after President John Kennedy's daughter). This craft was anchored in international waters, taking to the airwaves as a renegade daytimer around Easter, 1964. Soon, other UK radio adventurers joined the ranks of Caroline. While most broadcast pop music shipboard, a few, like RADIO 390 (meters/wavelength), emanated its female-targeted, easy-listening music/less-talk format from vintage anti-aircraft gun towers in the Thames River Estuary. Interestingly, the aforementioned stations modeled their presentation on American contemporary radio, at a time when stateside broadcast music outlets expended a great deal of energy trying to be first in their respective markets to spin new hit records by British groups.

On a June Sunday afternoon in 1964, local businessman and Eastland, Texas mayor, Don Pierson, noticed a newspaper article that eventually caused genuine American pop radio styling and the "Liverpool sound" to merge in the air over the Beatles' home soil. Reading of Radio Caroline's plans, Pierson speculated about the great potential such a project would enjoy in a mid-1960s, "pop radio-starved" English environment. He married these musings with the spectacular ratings successes of Top-40 powerhouse, KLIF in Dallas, then called Tom Danaher, a friend (and VW dealership owner) who became enthusiastic about a "KLIF London" radio ship venture. Originally envisioned as a floating, 24-hour, "delayed-broadcast relay" transmitter that would primarily air tapes of KLIF's Dallas output, the proposal quickly took on a more robust life of its own. This required more investors and started



"Big L" personality Dave Dennis intros a record. The fact that he's able to use the turntable indicates the photo was taken on a day when the sea was relatively calm. (Courtesy of East Anglia Productions)

the proposed station's most interesting bit of gossip: some believed Ladybird Johnson, wife of the President, invested a bit of dough in the deal.

Legally, the offshore London project was organized by a Bahamian firm, but funding really came from Texas business interests. The entrepreneurs heard about an $80,000 former navy minesweeper that still had some life in her. They made a deal with officials of the Florida port where she'd been impounded, and soon had the craft equipped with RCA's state-of-the-art 50000-watt Ampliphase AM transmitter and (from Union Metals of Ohio) 212-foot guyed "tower" mast. Christened *Galaxy*, she was registered to a Panamanian corporation owned by the previously mentioned Lone Star Staters. Before the big transmitter, powered by Cummins Diesel generators, could be fired up, pads of copper had to be secured to the ship's underside so the copper attachments, not the hull, would suffer the corrosive effects of electrical radio frequency energy and salt water.

Meanwhile, in Dallas, the PAMS company began producing jingles for the venture with the same flavorful energy keynoting many famous U.S. rockers, like KLIF and New York's WABC. For a number of obvious marketing reasons, including the fact that Dallas — site of the Kennedy assassination — had a somber reputation, it was decided that the station would not air KLIF tapes. That meant the name "KLIF London" was a "no go," and a more appropriate handle had to be found. For a while, paperwork was printed bearing "Radio X," but "Radio London" nomenclature rolled off the organizers' tongues as more a satisfying choice.

Now came the task of finding staffers who could adapt U.S. Top-40 to British tastes. DJs were hired from various ports-of-call. Initiation included a healthy audio dose of KLIF Dallas aircheck tapes so that the new Radio London personalities better understood the format on which their programming would be based.

A few days before Christmas 1964, the whole package commenced operation just outside of British territorial waters — so that the radio ship was inside no country's jurisdiction — at 266 meters on the "medium waves." This frequency was close to the BBC's "proper" easy listening channel, so Brits didn't have to do much dial twisting to receive the official American Top-40 sound of Radio London. Big L's coverage day and night was "like a local" in much of southern England. Ad sales were handled through a land-based London office. With an estimated 12 million-plus listeners (plus additional millions on the Continent), Radio London gained an impressive share

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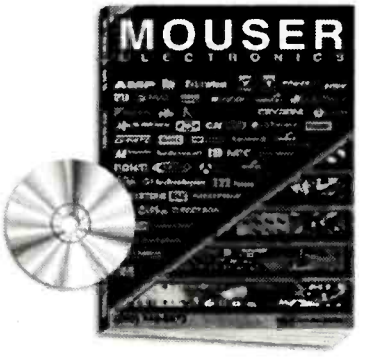

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CIRCLE 73 ON READER SERVICE CARD

of commercial clients. Additionally, many non-profit organizations benefited from "Big L" air exposure, promotion, and fund raising. As her popularity skyrocketed, Radio London's name got emblazoned on everything from record albums to pantyhose. A simple, enthusiastic on-air DJ "plug" was all it took to move the merchandise to eager audience members. Most everybody was happy with this pirate and her growing number of sisters — most everyone except the English government and its quasi-related BBC. These establishments envied the young audiences lured from staid state broadcasting by the fun-loving pirates.

Also a little green at times were Radio London (and other sea faring) disk jockeys. When a gale wind tossed the broadcast ships every which way, queasy DJs were still required to stay, bucket nearby, at their control boards. No telling how many records skipped or tape cartridges flew from their racks during rough seas. When the going got unbearable, distress calls were made between songs, causing listeners to phone rescue authorities for help.

A veteran of both Radio Caroline and Radio London, happy-sounding air-personality Tony Blackburn is one of the UK's best loved radio people. Today he's morning host of highly rated commercial station, Capitol Gold 1548-AM in London. This shot was taken during Tony's pirate days, circa 1966. (Courtesy of East Anglia Productions)

A Unique Radio Experience!

Typically, a pirate announcer would be ship-board, working various air-shifts each day for two weeks, prior to earning seven days on solid ground. And, for many DJs, the pay hovered around the $100 to $200 per week mark. Still, it was a unique experience, combining the lore of music-radio with the classic "war buddy" camaraderie associated with life in close, and sometimes perilous, situations.

Back in London, as well as the countryside, the Radio London DJ lineup enjoyed pop star-like status. There had to be something romantic about people who voluntarily gave up the comforts of home so English kids could gain free access to the music they'd otherwise have little opportunity to enjoy. One survey showed nearly 27 million UK residents tuned to the assorted pirate stations every week. That cume (cumulative audience) sent the British Broadcasting Corp. into fits. Big ratings should have caused the BBC to quickly get into the round-the-clock pop programming business, but official change came slow. Competition among the pirate operations, however, intensified fast with a dozen, or so, transmitting to the UK. For a time, things got out of hand, in the form of armed station takeovers and the shooting death of a rival pirate organizer. Fortunately, Radio London kept above that brand of discord, concentrating instead on a professional, American-style, hit music format. Commercial rates jumped to more than $450 per 60-second spot. Reportedly, a few of "Big L's" bigger investors were checking their Bahamian bank account deposit figures twice per day.

Throughout the nearly three years of Radio London's tenure, government efforts had been orchestrated to silence the pirates. But, because so many English folks — even some members of Parliament — listened to commercial services such as Radio London, most officials didn't see the political wisdom in making good on threats. Besides, the BBC didn't really have anything to take the pirates' place in popular culture.

Then, in 1967, the bureaucratic wind blew a storm of legislation at the technically illegal radio ships. Anyone in British jurisdiction could be arrested and imprisoned for advertising on (or having anything to do with) the pirates. With financial support dwindling — although the huge audience was still there — Radio London and her compatriots decided to call it a wrap. Even the Beatles' Ringo Starr marked the loss by transmitting a personalized "farewell Big L" message over the 266 station's dial spot.

On a mid-August 1967 afternoon, there was a hesitant time check, a simple closing announcement, and a poignant pause, after which "wonderful Radio London's" American-sung jingle played for the last time. Young people all over the southern UK reflected amidst the static whisper of their radios. For many, it was as though a friend had died.

In time, BBC officials admitted that people wanted some sort of pop music outlet. They even hired a handful of former pirate DJs who helped the "official" broadcast service unveil its contemporary "Radio One" channel. In fairness, this outlet, along with subsequently authorized land-based commercial radio, has developed into an excellent audio programming source now enjoyed by millions. Still, rumor has it there are British subjects (perhaps a little older now) who'd give anything to be rushing home from class in time to hear a young "Americanized" chap, in a tiny, sea-tossed studio play a "hitbound" record on "The Big L." But that's not quite the end

of the story . . .

Thirty Summers Later, "Big L" Sails Again

It's natural to ask a lot of questions when you're living outside your home country. My wife and I struck up a conversation with a British couple in their late 40s that lead to what, for me, was a most exciting revelation.

After admitting to shopping at almost every old book and record shop within commuting distance of Central London, I expressed disappointment in coming up empty handed. My search netted not a single souvenir of the pirate radio days.

"You mean like Caroline, 'Big L,' and those blokes broadcasting Rolling Stone records at sea?" one of our new friends wondered. "We grew up on that groovy sound, didn't we, Love?" he winked at his wife.

Then she recalled hearing something somewhere that one of the pirate stations was getting government blessings to hit the air for nostalgia's sake. This rumor turned out to be true. It was news about the return of Radio London!

"Big L" fan and publisher, East Anglia Productions, decided its favorite station had been away too long. Even the British Radio Authority agreed (a little bit) and licensed EAP to operate a shipboard AM on the old 266-meter frequency. The authorization lasted only 28 days — with just a watt of power, but it let the spirit of Radio London ride the waves once more from July 18 through August 14, 1997. Because "Big L's" original home, the *Galaxy*, had been sold for scrap, the motor vessel, *Yoeman Rose*, played that hostess to last summer's Radio London version. She was anchored off Frinton-On-Sea, and put a decent signal over the coast of Essex, North Kent, parts of Suffolk, and the Thames Estuary. Experienced DXers savored bits of the '97 broadcast in the heart of London.

The recent programming included the return of some of the station's original air staff, as well as re-broadcasts of actual '60s airchecks. Cost of the $56,000 nostalgic venture was offset by the sale of radio ads — former "Big L" advertisers only had to pay 1965 prices for their spots — personal sponsorships, Radio London T-shirts, coffee cups, and even boat trips to the ocean-going studio/transmitter.

The station was also heard at 1503 kHz over this past holiday season from a vessel tied up at London's St. Katherine's Dock. Like the 30th Reunion broadcasts, these low-power broadcasts were covered under Britain's "Restricted Service License," and are also available on the Internet. That means, no matter if you're miles away from the water, you can cruise to Radio London through East Anglia Production's neat Web site. As you steer your keyboard, imagine one of the station's best loved jingles: "It's smooth sailing with the highly successful sound of wonderful Radio London!" Check out <http://www.channel9.demon.co.uk/radiolondon/>. ■

Editor's Note: Peter Hunn is a communication studies professor at the State University of New York at Oswego. SUNY sends him to London each summer where he teaches a course on British and American radio and TV history.

For further reading on this subject check out Pirate Radio (in America) *by Andy Yoder,* Pop Went The Pirates *by Keith Skues,* When Pirates Ruled The Waves *by Paul Harris, and EAP's new* Radio London Story *by Chris Elliot, which was used in the preparation of this article.*

Radio Privacy Bill Passes, Impact On Scanning Questionable

By J.T. Ward

Editor's Note: At press time, the Senate had not acted on H.R. 2369, and it was not scheduled for Senate action. Please check our Pop'Comm *Web site at <http://www.popcomm.com> for updates as they occur.*

The hobby radio community lost another battle on March 5 when the U.S. House of Representatives voted 414-1 to pass H.R. 2369, the Wireless Privacy Enhancement Act of 1997, authored by Rep. Billy Tauzin, a Republican from Louisiana. Only Rep. Ron Paul, a Republican from Texas, voted to oppose the bill.

H.R. 2369 has been forwarded to the U.S. Senate where it was scheduled to be heard in the Committee on Commerce, Science and Transportation on March 12, but it was pulled from the agenda at the request of Sen. Ernest F. Hollings, a Democrat from South Carolina. Holling's aide, Morrie Lane, said Hollings wanted more time to consider the bill before voting. Lane said despite the delay, he expects H.R. 2369 to reach the Senate floor soon, where he expects it to meet little, if any opposition.

Assuming that H.R. 2369 passes in the Senate and eventually becomes law, what does it mean for the scanning and shortwave hobbies? To fully understand this bill, first disregard most of the wording referring to monitoring cellular telephones. It was already illegal to monitor cellular phones before this bill passed, and the cellular frequencies are already blocked in all new scanners sold to the general public in the U.S. When it comes to monitoring cellular phones, this bill mostly duplicates existing law, although it does direct the FCC to investigate such violations independent of the Justice Department, and it increases the penalties if you're caught listening to cellular telephone communications.

Where H.R. 2369 really breaks new ground is in extending the protections afforded cellular telephone users to the new Personal Communications Service. PCSs, as they are called, typically integrate wireless (cellular) telephone, paging, e-mail, wireless facsimile and other services into one unit.

As passed, H.R. 2369 will prohibit the manufacture or sale of scanners capable of receiving frequencies used by the new Personal Communications Services. However, while the loss of any portion of the spectrum is cause for concern, its impact will be negligible to most scanner listeners. Why? Because PCSs operate in the 900- to 9400-MHz and 1.9-GHz ranges, and all use digital transmission modes. No scanner on the market is capable of decoding these digital transmissions and converting them to understandable voice audio. Basically, they're taking away something we don't have. Go figure.

H.R. 2369 also makes it clearly illegal to modify even your *own scanner* to receive cellular or PCS frequencies. There had been some ambiguity in the existing law, and the FCC was only investigating cases where companies advertised to provide modification services. H.R. 2369 clarifies the issue.

Not so clear is H.R. 2369's impact on private sales of existing scanners with cellular coverage. It states:

"(4) Any person who manufactures, assembles, modifies, imports, exports, sells, or distributes any electronic, mechanical, or other device or equipment, knowing or having reason to know that the device or equipment (clause concerning satellite piracy gear omitted) is intended for any receipt, interception, divulgence, publication, or utilization of any communication in violation of subsection (a), shall be fined not more than $500,000 for each violation, or imprisoned for not more than 5 years for each violation, or both. For purposes of all penalties and remedies established for violations of this paragraph, the prohibited activity established herein as it applies to each such device shall be deemed a separate violation."

As one *Pop'Comm* reader pointed out in an Internet posting, if H.R. 2369 becomes law, it could have severe consequences for the innocent reseller:

"While this doesn't exactly retroactively ban possession of radio gear capable of intercepting (cellular telephone calls), it provides extremely stiff felony level penalties for manufacturing, assembling, modifying, importing, exporting, selling, or distributing any radio receiving gear that might be construed to be intended for receipt or interception of any radio communications not on the allowed list. Thus, selling an old scanner at a Saturday morning hamfest — a scanner legally purchased from RadioShack in the era before cell phone frequencies were outlawed on scanners — could conceivably result in a $500,000 fine and a five year jail term."

While it's unlikely that the FCC or Justice Department will put much of an effort into prosecuting individual sales, stranger things have happened. Perhaps more at risk are folks who regularly buy and sell old radios as a way to finance their hobby. Having two or three cellular-capable scanners on display in a booth at a hamfest just may be more than the feds can ignore if the bill passes.

The scariest part of this bill, and the section that has created the most controversy, is Section 3, Paragraph A, where it changes the wording of Section 705 of the Communications Act of 1934 from "interception and divulge" to read "interception *or* divulge." Until H.R. 2369, it's been pretty much OK to listen to whatever you like (except cellular, cordless phones, and encrypted communications, of course) as long as you don't repeat what you hear, or use it for personal gain. But by changing "and" to "or," H.R. 2369 makes even the act of *listening* illegal.

Initially, it appeared that under H.R. 2369 listening to anything but AM/FM broadcast radio, television, citizens band, and amateur (ham) radio operators, aircraft and boats or ships would be illegal. However, after being inundated by telephone calls, faxes, and e-mail, Rep. Tauzin, the bill's sponsor, recognized the problem and took steps to correct it. The bill was changed to exempt the vast

majority of communications of interest to scanner and shortwave listeners.

Just as importantly, in its report accompanying the bill, the House Commerce Committee clearly states:

"... Section 2511(g) provides a number of broad exemptions for the interception by private parties of radio communications, including those that are transmitted over a) a system configured for ready access by the general public; b) by any station for the use of the general public, or that relates to ships, aircraft, vehicles or persons in distress; c) any governmental, law enforcement, civil defense, private land mobile, or public safety communications system that is readily accessible to the general public; d) by any station operating in the amateur, citizens band (CB); and e) by any marine or aeronautical communications system.

Because the Committee preserved the Chapter 119 exceptions in its amendment of Section 705(a) of the Communications Act, the Committee does not intend for the [Federal Communications] Commission or any other enforcement agency to investigate or fine parties for the interceptions authorized by Chapter 119.

Therefore, the Committee does not intend for the uses of scanning receivers and receiving radios such as shortwave radios, that are consistent with the Section 2111(g) exceptions, to be investigated or fined under Section 705(a)."

The inclusion of this language in the Committee report is very important. "The FCC must be sensitive to Congressional intent in interpreting the law," said Steve Mansfield, manager of legislative and public affairs for the Amateur Radio Relay League. That intent is very clear in the Committee report accompanying the bill. Mansfield continued, "This is an explicit assertion of Congressional intent, and as such, not only directs the FCC, but also may be used as 'intent' in legal proceedings," he said.

Still, some questions remain. The Chapter 119 exemptions cited above include "c) any governmental, law enforcement, civil defense, private land mobile, or public safety communications system that is readily accessible to the general public." H.R. 2369 includes a ban on scanners capable of decoding digital "protected specialized mobile radio service transmissions." Just what types of transmissions are "readily accessible," and which are not? Some communications, whether analog "scrambling" or "digitally encrypted" are clearly not meant for the general public, and monitoring of those transmissions is already illegal. But what about public safety agencies using digital transmission modes, but not encryption? Are these considered "readily accessible to the general public," or are they "protected specialized mobile radio service transmissions?" Neither H.R. 2369, nor the attached Committee report, answers these questions, and the definition included in the bill itself is somewhat obtuse on this point.

Cleveland, Ohio, for example, has recently installed a digital public safety radio system. All police, fire, and EMS communications are carried on this system, and no currently available scanner is able to monitor those communications. Will the wording in H.R. 2369, Section 2, prevent the future marketing of a scanner capable of monitoring the digital communications used by Cleveland and other municipalities? So far, no one in Tauzin's office or at the FCC has been able to offer an answer. ■

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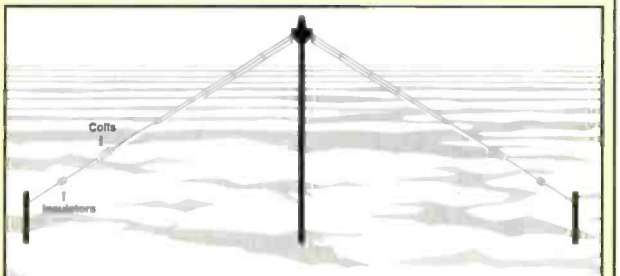

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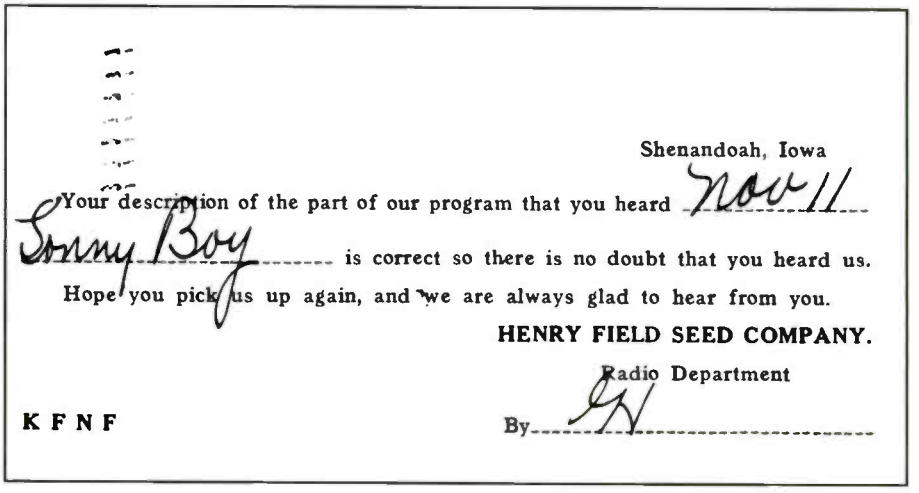
The Call Letter Connection

What's Behind Letters? Either More Or Less Than You Thought!

By Alice Brannigan

We received a good question from reader Dr. Vic Delnore, W2ILY, of Engineering & Sciences Co., NASA Langley Research Center, in Virginia. Vic asked a question we had never before heard, and which doesn't appear to have been addressed previously in any of the materials I have yet been able to locate. Vic points out that the United States is presently assigned the use of the call letter prefixes K, N, W, and about half of the A bloc. But he wants to know what connection those particular prefix initials have to the name of our nation. For instance, he points out that for many nations, there appears to be a logical explanation for their assignments. France has the prefix F, Great Britain has G, Italy has I, Russia has R, and so on. For the meanings of some, you need to dig a little deeper, maybe knowing the nation's name in another language: Germany has D (for Deutschland), Netherlands has PB (for Pays-Bas), etc. So what's the significance of our nation's cryptic prefixes? Let's trace down this call letter mystery.



Shenandoah, Iowa

Your description of the part of our program that you heard Nov 11

Sonny Boy is correct so there is no doubt that you heard us.

Hope you pick us up again, and we are always glad to hear from you.

HENRY FIELD SEED COMPANY.

Radio Department

K F N F

By GN

KFNF, at Shenandoah, Iowa, was an early broadcaster receiving a four-letter format callsign from one of the blocs used for the new service. This QSL is from 1928.

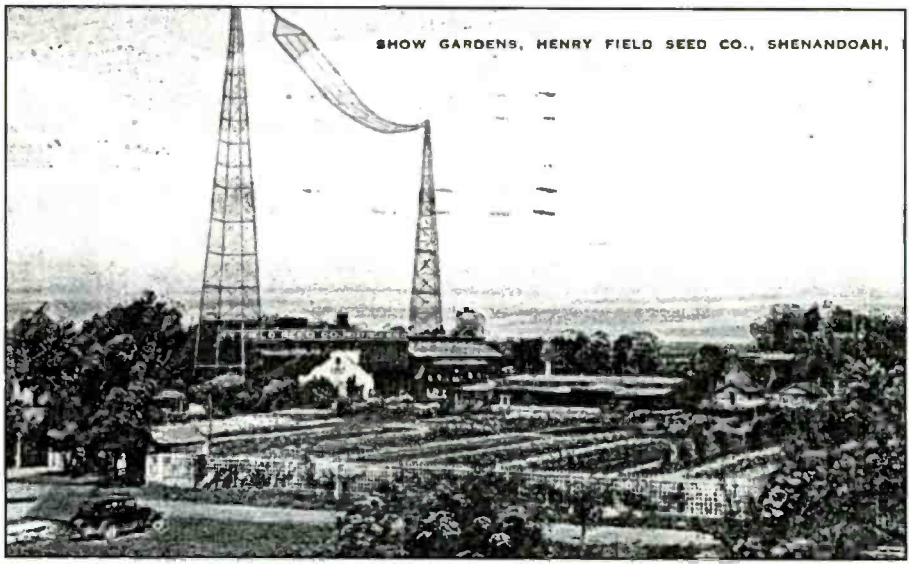
Here's The Deal

In the early days of any technology, things tend to be informal. Early aircraft flew for a few years without the need for officially assigned tail numbers. Likewise, at the dawn of wireless, there were no formally issued call letters, or even agencies to assign such designations. For the most part, the earliest wireless stations were spark gap transmitters aboard ships, and military or commercial coastal stations intended to communicate with ships. Wireless was primarily intended as a safety system, so a vessel could send or receive distress calls, obtain weather information, and (secondarily) be used to send and receive radiograms.

In those days, the accepted practice was for ship or coastal station owners simply to concoct their own convenient wireless identifications. They often used two-letter designations that reflected the name of the vessel or location of the station, or distinctively identified the station owner.

This unofficial, haphazard, and unregulated system served its purpose, at least in the beginning. But, eventually, as wireless communications became increasingly popular around the world, call letter problems cropped up. This happened when callsign duplications began appearing, thus defeating the ability of each individual station to have a unique and distinctive identification.

Typical duplication examples included the callsign GP, being used by both the *USS Lawrence* and the *Standard Oil Co. Barge No. 95*. The identification PA



A bird's viewpoint of station KFNF, owned by the Henry Field Seed Company. (Courtesy Jerry Rappel, Davenport, IA)

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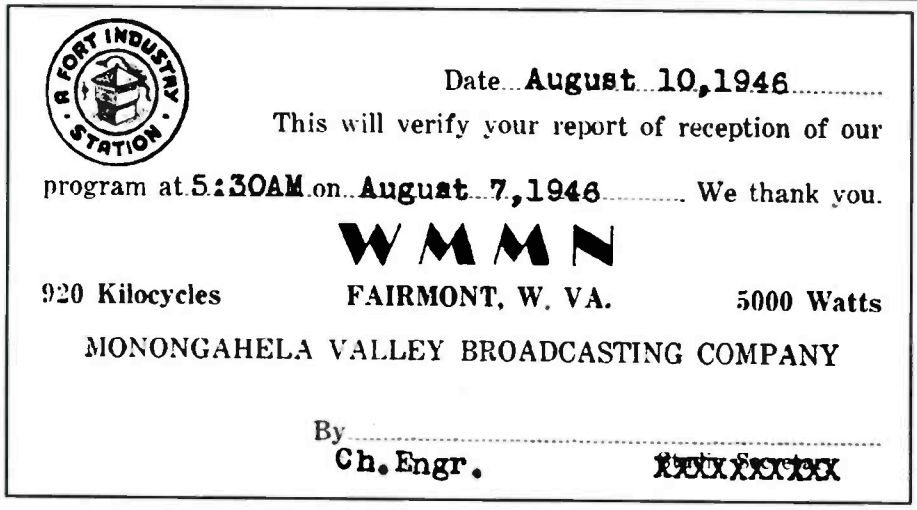
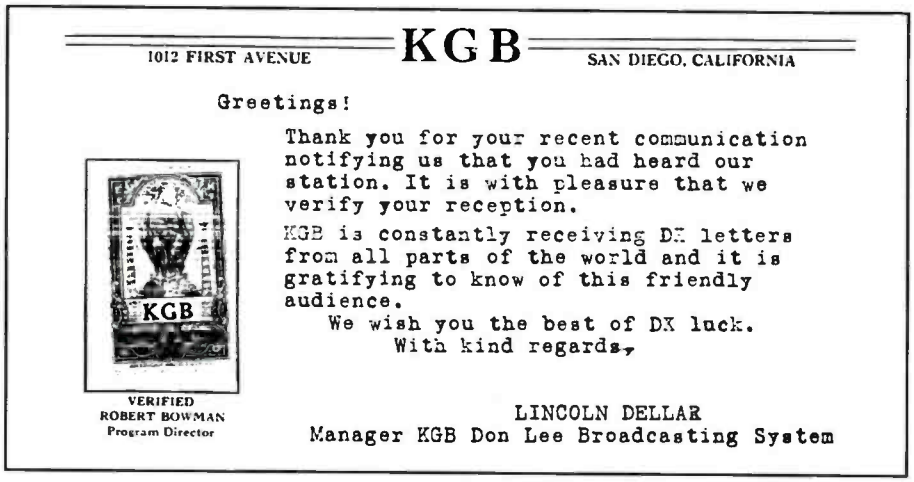


Station WMMN requested that its call letters be customized to pay honor to West Virginia's Sen. Mansfield M. Neely. (Courtesy Tom Buckley, Washington, DC)

meant both the Cunard Line's *RMS Carpathia* and also a Belgian ship, the *SS Prince Albert*. Callsign SD was the Marconi station on Sable Island, Newfoundland, plus the U.S. Navy's station at Culebra, Puerto Rico, as well as another coastal station at Port of Spain, Trinidad. Callsign BA identified the Marconi station at Babylon, New York, as well as the warship *USS Abarenda*, and another vessel, plus two other coastal stations! How was an operator to distinguish which of several stations sharing the same identification was being heard? By 1906, the system of self-assigned callsigns had outlived its usefulness.

Can't We All Be Friends?

At the international radio convention held in Berlin in 1906, nations of the world proposed a uniform system of officially issued and easily recognized international designations for wireless stations. Those nations ratifying the Berlin convention received prefix assignments to be used as the system became effective in 1908. France received the FAA-FZZ bloc, however France also got blocs HOA-HZZ and UAA-UMZ; Great Britain, and some of its colonies and other territories received, GAA-GZZ along with BAA-BZZ, CFA-CKZ, COA-COZ, EIA-EZZ, LSA-LUZ, OCA-OFZ, VPA-VSZ, VXA-VZZ, XEA-XMZ, XTA-XZZ, YAA-YZZ, and ZAA-ZZZ. Other nations and various autonomous colonial areas also received one or more prefix blocs. This included large ones, such as Canada, China, Denmark, India, South Africa, Portugal, Japan, Norway, Brazil, Greece, Australia, as well as many smaller ones, like Chile, Romania, Siam, Dominican Republic, Peru, Egypt, New Zealand, Mexico, Colombia, Argentina, Surinam, Curacao, Morocco, Bolivia, Guatemala, Monaco, and others. Even though the U.S. had the largest number of wireless stations, we did not initially join other nations in ratifying the Berlin convention. Consequently, we were unable to obtain any of the original prefix assignments!



In 1927, San Diego broadcaster KGB received its call letters. They had been recycled from the SS D.N. Luckenbach *torpedoed by a German U-boat during World War I. (Courtesy Ted Saunders, Modesto, CA)*

Wireless Grows In Popularity

Wireless drew world attention during the winter of 1909 when the British luxury liner *RMS Republic* was rammed by the Italian passenger liner *SS Florida* in heavy fog near Nantucket, Massachusetts. Though the *Republic* suffered severe damage, wireless operator Jack Binns continued sending distress calls until he was able to summon the steamer *Baltic* to the scene. The *Baltic* arrived in time to save 1,650 passengers from both vessels. Though six lives were lost, it was the first time wireless had been used at sea to save large numbers of lives. Wireless was recognized as a life-saving miracle, and Jack Binns was hailed as a hero. This convinced even more ship owners to install wireless equipment.

As late as 1909, the U.S. government still had not joined other nations in ratifying the Berlin convention. Vessels and coastal stations of those nations were using officially issued and registered call letters drawn from internationally assigned prefix blocs. American stations were forced to continue their risky practice of using self-assigned unofficial radio callsigns.

The U.S. Acts, Finally!

At last, in the aftermath of the *RMS Republic* disaster, the public and the media began angrily demanding to know why American wireless stations were still forced to use an outmoded and dangerous identification method while the rest of the world had already switched to a safer international system. Who was responsible? Questions such as these invariably motivate Washington to act with deliberate speed.

Presto! The Radio Act of June 24, 1910, suddenly became a reality. This was the first radio act enacted in the U.S. following the ratification of the Berlin convention by other world nations. Included in that Act was our own nation's ratification of the Berlin convention. Following that, on July 1, 1911, the Radio Division of the U.S. Department of Commerce was established to enforce the provisions of the

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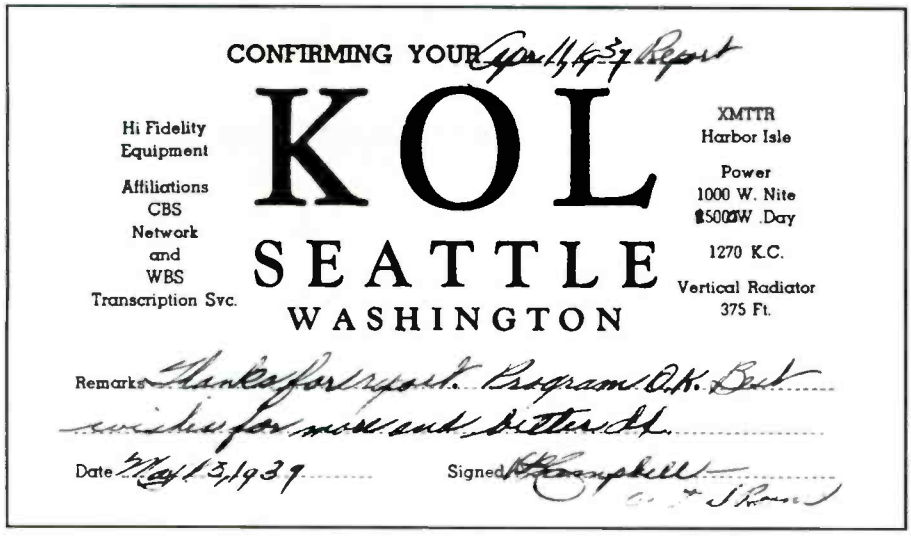

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Remarks Thanks for report. Program O.K. Best wishes for more and better dx.

Date May 13, 1937 Signed H. Campbell

The call letters KOL had been used by the SS Mount Hope *prior to their being issued to a Seattle broadcaster. (Courtesy Tom Buckley, Washington, DC)*

Radio Act. At that point, American stations were finally able to obtain their first official assignments of call letters using international prefixes.

The original U.S. prefix allocations were NAA-NZZ, WAA-WZZ, and KDA-KZZ. We were not allocated KAA-KCZ because that bloc had previously been given to Germany. Obviously, some major nations that immediately ratified the Berlin conference got first shot at the available prefix list, and were able to match them to the initials of their country's names. When the U.S. showed up four years after the list had been well picked over by everyone else, all we could get were assorted leftovers. The prefix initials we received did not have any special tie-in for the U.S., as had been the case with some of the other nations.

Making Do

After the prefix allocations were made, NAA-NZZ was reserved by our government for use by U.S. Navy and Coast Guard stations. All three-letter K calls were first given to coastal stations on the Pacific coast and vessels plying the Atlantic Ocean and Gulf of Mexico. For a number of years, the WUA-WVZ and WXA-WZZ call blocs were reserved for U.S. Army stations. Other three-letter W calls were first allocated to Atlantic, Gulf, and Great Lakes coastal stations, and ships plying the Pacific Ocean. That practice worked smoothly until the opening of the Panama Canal. From that time on, with ships easily going from one ocean to the other, K and W call letters were assigned to vessels plying both oceans.

By 1914, all 1,144 three-letter K and W combinations available to commercial ship and coastal stations had been assigned, and it was necessary to commence issuing four-letter format call letters to ships. Note that the identification letters issued could be used for wireless call letters and/or visual (signal flag) vessel identification. Indeed, many vessels receiving call letter assignments did not have wireless aboard, and required only a means of easy visual identification.

Beginning in 1921, ships renewing their licenses and visual identifications found their old three-letter calls were being replaced by the newer four-letter ship call letter format. That's because, as of late 1921, the discontinued three-letter format callsigns were being recycled for use in the new broadcasting service. Broadcasters also received old three-letter callsigns once used by ships that had burned, sank, or been abandoned or scrapped. Starting in 1924, specific blocs of four-letter format call letters also began being assigned to broadcasters.

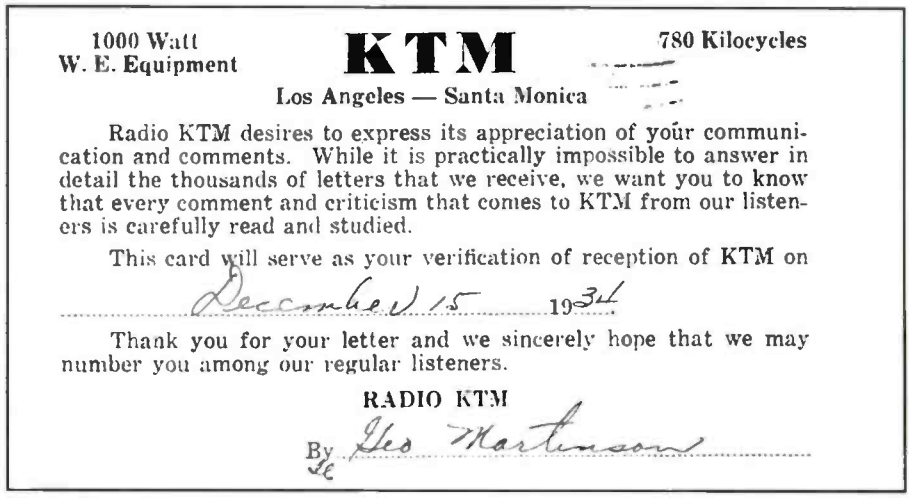
The first four-letter callsigns assigned to broadcasters in 1924 were generally confined to the series commencing with the letters KDY-KDZ, KFA-KFS, WAA-WAB, WBA-WCB, WDA-WDB, WEA-WEB, WFA, WGA, WHA, WIA, WJA, WKA, WLA, WMA, WNA, WOA, WPA, WQA, WRA, WSA, WTA, and WWA. Ships were simultaneously being assigned (different) call letters from these same, and other series. Callsign KDKA was issued to the pioneer Pittsburgh broadcaster long before the creation of the broadcast service. It's a special case. The government had no other choice but to issue it to Westinghouse from the bloc being issued to ships.

As a general rule, continuing the old coastal station practice, broadcasters east of the Mississippi received (and still receive) licenses with W prefixes, while those to the west were assigned prefixes with a K. Of course, there were exceptions to this, especially with very early broadcasters such as KDKA, KYW, and WRR.

In 1927, the U.S. received the remainder of the K bloc (KAA-KCZ) prefix allocation when it was reassigned from Germany. The U.S. has also got the bloc AAA-ALZ, which had previously been assigned to Germany.

Say It With Meaning

Soon after the inception of broadcasting, the idea of giving call letters to stations that would have some special sig-



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Radio KTM desires to express its appreciation of your communication and comments. While it is practically impossible to answer in detail the thousands of letters that we receive, we want you to know that every comment and criticism that comes to KTM from our listeners is carefully read and studied.

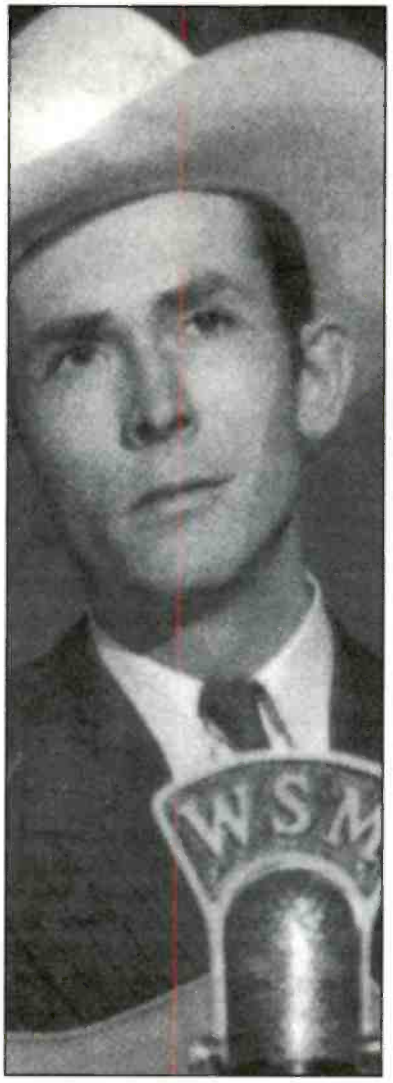
This card will serve as your verification of reception of KTM on December 15 1934

Thank you for your letter and we sincerely hope that we may number you among our regular listeners.

RADIO KTM

By Geo Martinson

This California station received recycled call letters. KTM had previously been assigned to the SS Eocene. *(Courtesy George Saunders, Modesto, CA)*



Nashville's WSM became prominent because of its "Grand Ole Opry," and great stars like Hank Williams (shown in photo). However, WSM audiences never knew that its famous call letters had previously been used by the SS Fair Oaks!

KDZ....Zulia Am ss
KEA....Phyllis Am ss
KEB....Sabine Am ss
KEBB...H. M. Dinioah Am ss
KEBC...Nehalem Am ss
KEBD ..Abros Am ss
KEBF...Edgefield Am ss
KEBG...Fort Stevens Am ss
KEBJ...Fort Scott Am ss
KEBK...Fort Smith Am ss
KEBL...Fort Sill Am ss
KEBM..Lake Giltedge Am ss
KEBN...Lake Girth Am ss
KEBP...Lake Farabee Am ss
KEBQ...West Henshaw Am ss
KEBR...Lake Strabo Am ss
KEBS...Jekyl Am ss
KEBT...Nesco Am ss
KEBV...Lake Flushing Am ss
KEBX...Remus Am ss
KEBZ...The Lambs Am ss
KEC....Concho Am ss
KECB...Edenton Am ss
KECC...Marshfield Am ss
KECF...Cawker Am ss
KECG...Chicago Bridge Am ss
KEJF....Western Ally Am ss
KEJG...Lake Fraichur Am ss
KEJJ....Lake Fraley Am ss
KEJK...Lake Grainger Am ss
KEJL...Lake Grams Am ss
KEJN...Lake Fanbush Am ss
KEJP...Lake Faulk Am ss
KEJQ...Cabegon Am ss
KEJS...West Amargosa Am ss
KEJV...Faraby Am ss
KEJX...Transportation Am ss
KEK....S. Marcos Am ss
KEKB...East Wind Am ss
KEKC...Norma Am ss
KEKF...Berela Am ss
KEKG...Lake Grampian Am ss
KEKJ...Lake Grampus Am ss
KEKL...Saguache Am ss
KEKM..Lake Fansdale Am ss
KEKN...Lake Fanquier Am ss
KEKP...Lake Furlough Am ss
KEKQ...Castle Wood Am ss
KEKR...Homestead Am ss
KEKS...Tartar Am ss
KEKT...Oscoda Am ss
KEKV...Neabsco Am ss

Part of a 1921 callsign listing is from pre-broadcasting days. It shows American ship stations using three- and four-letter callsigns. (Courtesy Robert Campbell, Hillsboro, OR)

nificance was conceived. To begin with, KOP was assigned to the Detroit Police Dept. With the popularity of that assignment, over the years the government eventually received a deluge of requests for call letter assignments designating the initials of a slogan, the owner's name, even the name of a city or state.

In broadcasting's first decade, to cite a few examples, the station of the Radio Corporation in Washington asked for WRC, which they said meant Washington Radio Corporation. Then the Chicago Tribune asked for WGN, to stand for World's Greatest Newspaper. WCCO in Milwaukee requested its call letters to indicate the Crosby Co. WJJD, in Illinois wanted its call letters to reflect the initials of James J. Davis, then the Director of the Loyal Order of Moose, while WMMN asked for call letters honoring West Virginia's Sen. Mansfield M. Neely. Atlantic City's WGP gave the message that it was in the World's Greatest Playground. Not to be outdone, Miami's WIOD plugged its home town as the Wonderful Isle of Dreams.

But some call letter information was kept quiet. For instance, information about those old three-letter callsigns that had been recycled to broadcasters after prior ship use. Broadcast audiences were never told about such matters because they involved disasters. San Diego's KGB (ex-KFBC, later KPOP), for example, was given a callsign previously used by the *SS D.N. Luckenbach*, sunk by a German submarine off the French coast in 1917. Call letters KOB had been used by the Old Dominion Line passenger steamer *Princess Anne* until Feb. 6, 1920. That's when the 3,600-ton luxury coastal liner encountered a blizzard, got lost, ran hard aground, and broke in two on Rockaway Shoals, New York. The ship and its $500,000 cargo were a total loss. Wireless had played a vital role in the rescue of all 106 persons aboard. On April 5, 1922, its KOB call letters were reassigned to an Albuquerque broadcaster (later KKOB) that kept them going for more than 60 years!

So the U.S. doesn't have customized call letter prefix initials that represent anything special, but that's only because we were one of the last in line to sign up when they began giving them out. But we did quite well with the snips and scraps we were given. Don't you agree?

Please pass along any old time wireless and radio photos, picture postcards, QSLs, newspaper clippings, and station listings. Our snail mail address is in care of *Popular Communications*. You are also invited to e-mail your comments and column suggestions to us at: <Radioville @juno.com>. ■

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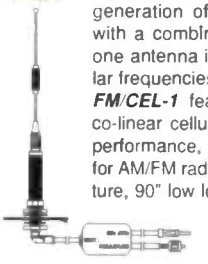
FM/CEL-1 NEW!



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Ten years ago satellite phone equipment could cost as much as $25,000, and airtime was around $5 a minute. About five years ago, satellite phone prices dropped to $10,000 for a stabilized antenna phone system, and airtime to about $4.75 a minute.

Today, SAT phone systems with a stabilized antenna are around $7,000, and, if you want to carry your entire setup in a briefcase that you aim toward the Equator, these little systems are available for around $6,000, with airtime dropping to about $2 a minute.

About a month from now, a little $1,500 data communicator, the GSC-100 from Magellan, will let you upload radio grams into the e-mail system from anywhere in the world using low-earth-orbit satellites to send and receive the radio calls. And, in September, Motorola turns on the low-earth-orbit Iridium system, letting that little cellular telephone space communicator do double-duty as a cellular as well as a SAT phone. It's going to get real exciting in just a few more months up in the skies!

What's Out There

One of the best-known worldwide satellite phone and data systems is operated by INMARSAT, an international consortium of 79 member countries which pioneered, and is now the world's largest provider of, mobile satellite communications. But it took massive stabilized gyro-antenna setups to stay locked onto the INMARSAT satellites from vehicles or boats. But this has changed!

INMARSAT has launched four powerful new satellites with 1.6-GHz (1600-MHz) spot-beam coverage of the world. Their service is called Mini-M, and is a new low-cost telephone service and data messaging system that takes advantage of the power of the new satellites by using smaller, less expensive satellite antenna systems here on earth or out on the ocean.

One of the most respected gyro-stabilized antenna systems for INMARSAT communications comes from KVH Industries. The KVH Tracphone 25 is an INMARSAT Mini-M system utilizing a three-axis, gyro-stabilized, circularly polarized antenna inside a white radome that constantly stays locked onto any one of the four satellites of your choice. The antenna measures only 10 inches in diameter, and can provide voice, data, and fax communications to the associated, connected equipment.

KVH offers a turn-key activation option through an agreement with Station 12, the world's largest INMARSAT service provider. KVH will pre-activate any Tracphone for Station 12 "Altus" service, saving radio operators the time and effort normally required to establish a contract connection. Any active SIM card can be utilized with the Tracphone 25 to insure security and phone call accountability. This microprocessor on a card can contain your own private phone book. You also have your own phone number — called number portability — just like your cellular phone. All calls you make from anywhere in the world will appear on a single bill you receive from the service provider. The phone can only work with a SIM card inserted, so you never need to worry about someone making phone calls on your dime!

The hi-tech "docking booster" (on right) turns the Iridium Motorola cellular phone into a satellite phone.

Subscription rates to INMARSAT Mini-M phone service are approximately $25 per month, and phone calls anywhere in the world, without land line charges, are billed at $3 per minute. You

Gordo sends a data gram back to Pop'Comm *on a Magellan GSC-100 LEO Satellite Communicator from his boat on the Pacific.*

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KVH Antenna Stabilized Systems 401-847-3327
Litton Iridium Service 804-974-2515
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Motorola Iridium 800-331-6456
National Mail Order Satellite Phone Systems, Don Melcher 800-584-4114
ORBCOMM 703-406-5836
Trimble INMARSAT-C Equipment & Service 800-827-8000

"The antenna measures only 10 inches in diameter, and can provide voice, data, and fax communications . . ."

may get several minutes of free phone calls. There are other rates available, too. For example, if you plan to run a missionary station in a remote part of the world, you can pay a higher subscription service, with phone charges down to under $2 a minute, with slightly larger equipment. Although this sounds expensive, it's generally LESS expensive than some countries' aged-old terrestrial land line phone system. However, you must secure permission from each country before you operate your equipment within their jurisdiction. If you're sailing out into international waters, dial to your heart's content!

"C" Service For Your Computer

INMARSAT also offers "C" service for your computer. The equipment runs about $4,500, and is available from SEA and Trimble. It doesn't offer voice capabilities, but it's extremely compact and lightweight. The transmitter is only about the size of a desk dictionary, and the antenna unit is about the size of a football. INMARSAT-C does not require a stabilized antenna for your data, fax, or e-mail communications.

The INMARSAT-C system also works on 1.6-GHz frequencies: 1626.5 MHz to 1660.5 MHz transmit; 1525.0 MHz to 1559.0 MHz receive, also capturing positioning information from the global positioning system at 1575.42 MHz. Modulation is a relatively slow 1200 symbols/second BPSK, but you are not charged for time on the air — only for the number of words and letters you are sending. The INMARSAT-C system ties into your supplied laptop computer DB-9F connector, and you can add a printer to your computer's DB-25F connector. If you already have your own GPS system, and you want to upload your position automatically, it will tie into your transceiver's NMEA 0183 Version 2.1 jack.

You compose your e-mail as you normally would on your laptop, and then direct the INMARSAT-C system to send it through one of the four stationary satellites. It's a store-and-forward system, and it typically takes about five minutes for your e-mail to finally arrive at the destination. And, in five more minutes, you may get a reply that is then held in the INMARSAT-C buffer until you turn on your computer and download your incoming e-mail.

INMARSAT Mini-M and INMARSAT-C, plus the other INMARSAT satellite services, cover the globe, except for some spot areas out in the middle of the ocean. But, as with INMARSAT Mini-M, if you plan to operate in another country with these other services, you'll need permission from INMARSAT.

Closer To Home

If you only want satellite communications for voice and data throughout the U.S. and out only a couple hundred miles into the ocean, however, you may want to consider the services operated by

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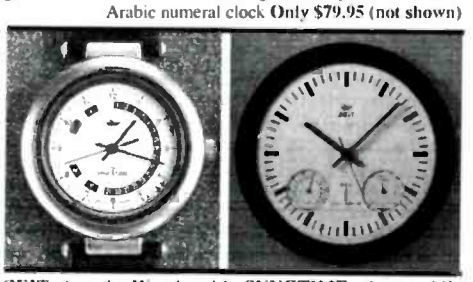

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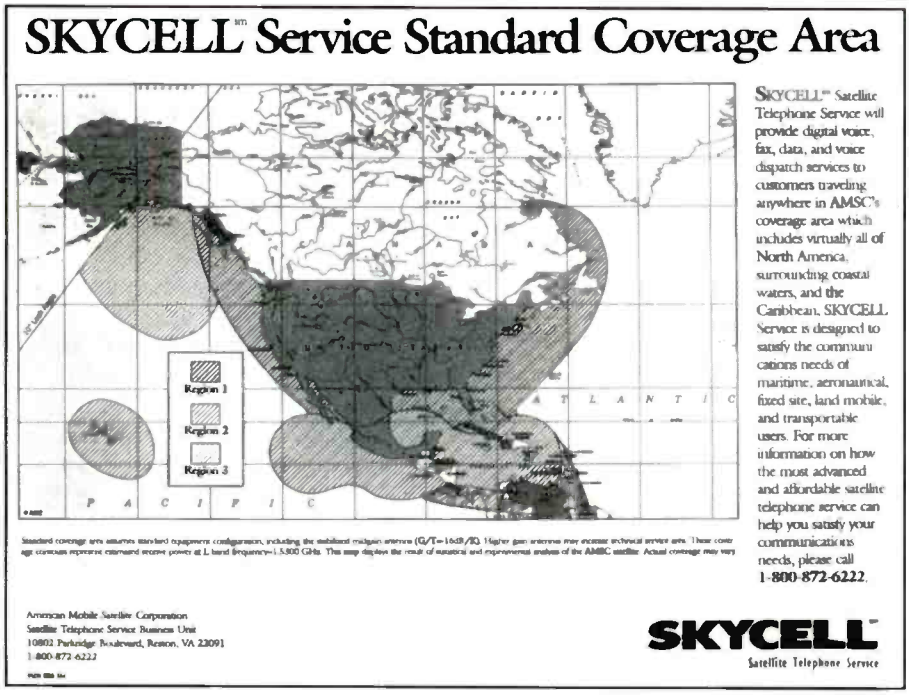
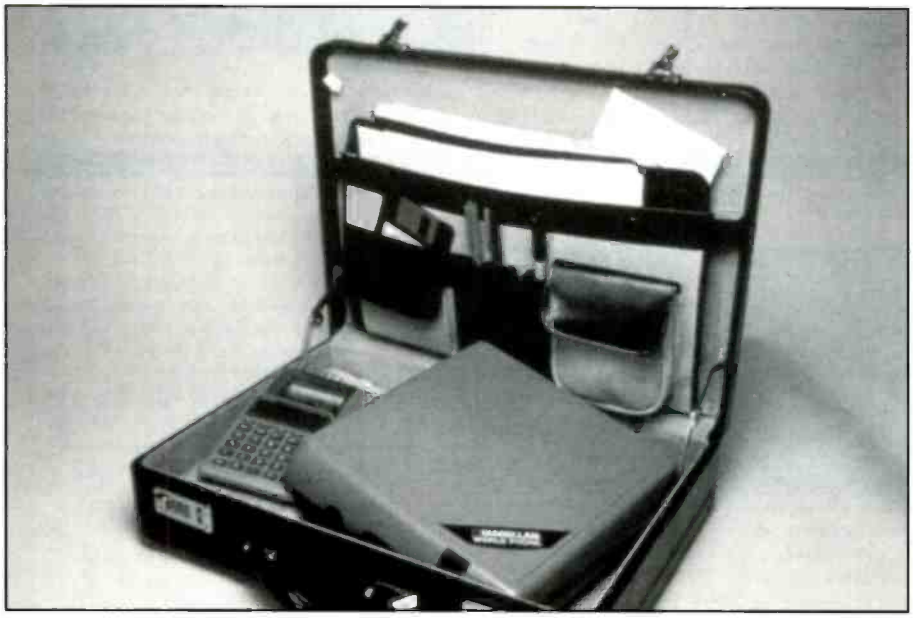


AMSC's Skycell service standard coverage area includes virtually all of North America, surrounding coastal waters and the Caribbean. (Courtesy Skycell)

American Mobile Satellite Corporation (AMSC). AMSC has a satellite built by Hughes Space & Telecommunications Company with spot-beam coverage of the U.S. and all the way down to Panama. The communications ground segment, located in Reston, Virginia, is the link between Skycell satellite telephone customers and public/cellular telephone users. A variety of phone and antenna configurations are available for AMSC service, such as marine, portable, vehicle land mobile and fixed-site systems, and gyrostabilized antennas from KVH.

AMSC offers voice mail, data at 4800 bps, call forwarding, 4800-bps facsimile, and the security of all digital uplink and downlink for voice on the satellite L-band. You can buy a new AMSC system for under $5,000, and phone rates are only $1.45 a minute. You'll pay anywhere from $30 to $40 for your monthly service fee. Many different service providers are available to meet your expected phone call demands.



The Magellan Mini-M World Phone fits inside a regular size briefcase! (Courtesy Magellan)

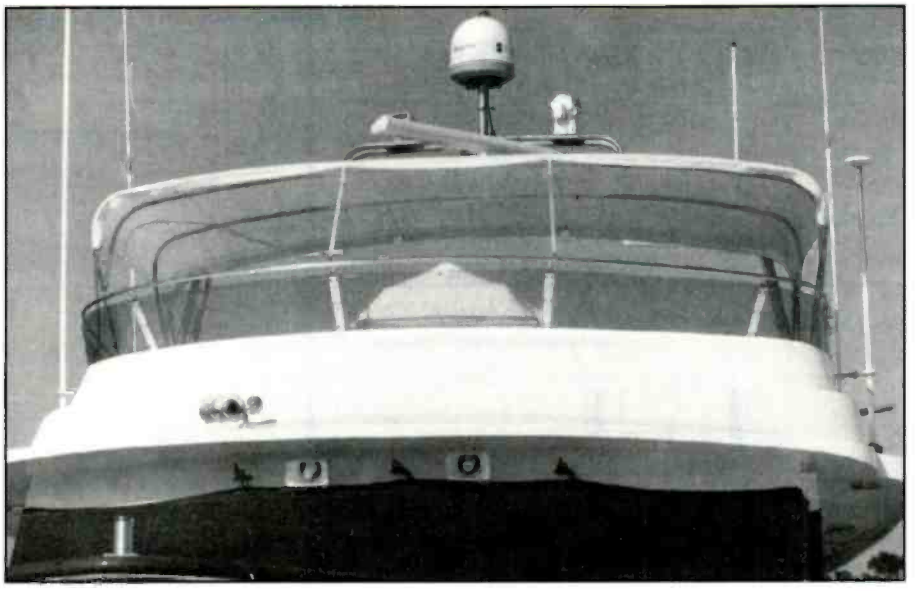
The LEOs Are Coming

What we just described as INMARSAT and AMSC satellite service is from geostationary satellites out 22,500 miles. It takes directional antennas to make the grade for voice, even so, voice calls are still troubled with that agonizing delay because of the 44,000-mile path the signals must travel. This makes a fast-paced phone call troublesome, and trying to interrupt the other party usually leads to phone chaos.

New constellations of low-earth-orbit satellites have been rocketed into space over the last few years, and two systems to soon be turned on for public use are Motorola's Iridium and ORBCOMM's Data Gram service with equipment from Magellan, the GPS folks.

What's a data gram? The ORBCOMM system works down on the VHF frequencies just below, and just above, the amateur radio 144- to 148-MHz 2-meter band. A constellation of approximately 30 ORBCOMM satellites will constantly have one or two visible satellites anywhere on earth. The Magellan GSC-100 allows you to type in an approximately 100-word message. Then, when the GSC-100 detects a satellite in view, it automatically uploads the message to the satellite which then carries it long enough to find a ground station to download the message. This message then goes into the e-mail system. You can also receive e-mail on your data communicator, but it might be as much as a 45-minute delay waiting for the next available satellite carrying your e-mail to come up into view, and for your unit to recognize an incoming call, take that call, and prepare it for your computer to read. All this must take place in a hurry because the low-earth-orbit ORBCOMM satellites are coming up and going down in less than six minutes. Some passes may only give you two minutes of upload or download time, so, needless to say, what you send and receive on ORBCOMM will be brief message grams, rather than long e-mail text packages. I've operated the ORBCOMM system and it works. It took about 15 minutes for the message to finally get through, but it made it loud and clear onto another computer halfway around the world.

The GSC-100 is an approximate $1,500-box. Messaging will probably be



The white dome is the satellite communications antenna system.

around a penny a character. There will also be a monthly rate of approximately $30, much like cell phones.

Motorola's Iridium System

Everybody has been talking about the Motorola Iridium system, and it's finally here. Actually, most of the Iridium satellites are already up in orbit, and some test messages have been sent and received with outstanding success. I saw a live demonstration of the Iridium system at the Miami International Boat Show, and it was quite impressive.

Motorola makes a lightweight handheld, portable communicator that combines global roaming convenience of a satellite phone with the added functionality of a regular cellular phone. It turns into a cellular phone by inserting a terrestrial radio cassette (TRC). This is a module that inserts into the compartment of the portable, allowing it to function as an analog cell phone, a digital cell phone, or even a digital PCS communicator that is compatible with your local cell phone system and its roaming capabilities.

When you are ready to hit the trail and go to an area that is so remote that there are no cell sites within 1,000 miles, it's time to slap on the satellite sender/receiver module that slips onto the back of the unit. The antenna is, well, a pretty strange-looking, goofy VHF device for accessing the satellites. While it looks strange, it worked great during our tests.

Everyone is saying the phone will probably cost around $3,000, and will work just like a regular cell phone when you have the terrestrial radio cassettes plugged in. Once you go to satellite, expect to pay about $2 for each minute of gab time, plus some sort of monthly service fee for the capabilities to call from anywhere. The big electronics giant Litton Industries has just signed aboard as the Iridium satellite/cellular phone system provider. Litton Marine Systems has signed an agreement to distribute the Iridium products and service to the marine industry. No doubt there will be other companies who will distribute this system to the land mobile industry and to emergency communicators who need to be able to call back from anywhere in the world.

"It's going to be an exciting year for satellite phones, so stay tuned."

Both ORBCOMM and Iridium have targeted September for their systems to be officially available to the public. That's only a few months away, and it will be interesting to see whether or not they can keep this date. I have seen both systems in operation, so it looks like they indeed have a chance to get low-earth-orbit public communications on the air.

It's going to be an exciting year for satellite phones, so stay tuned. And when you want to make a phone call from anywhere, remember these sets can handle the job. ■

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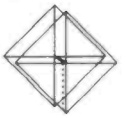

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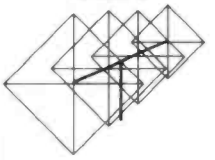
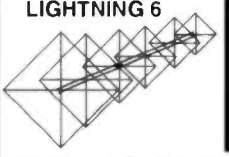


LIGHTNING 6



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The Radio Connection

BY PETER J. BERTINI, K1ZJH
<RadioConnection@juno.com>

A LOOK BEHIND THE DIALS

Speaker Hum And "Repairing" Old Tubes . . .

Last month we covered some basic speaker repairs. Now let's clean up a few loose ends.

Electrodynamic speakers are a clever bit of engineering. The early set designers were able to utilize the reactance of the field coil to improve power supply filtering. The magnetic field it generated by the passing current was put to work in the speaker. One problem remained. A small amount of "ripple," or AC voltage rode on the DC voltage across the field coil. These small AC voltages caused a like variation in the magnetic field. Since the voice coil bobbin is centered over the electrodynamic magnet pole piece, these changes in magnetic flux would induce a corresponding AC voltage across the voice coil winding. In effect, the speaker was acting like a transformer, with the field coil being the primary, and the voice coil the secondary.

The voice coil is connected to the secondary winding of the audio transformer, and the primary winding is connected to the plate of the audio output tube. Think of the audio tube as acting as a variable resistor — its resistance varies according to the input signal on its grid. It always presents a resistive load to the audio transformer primary.

"Wired the wrong way, the voltages will add, and you will be chasing the source of the hum for a long time."

Although this plate resistance is many hundreds of ohms, the voice coil sees a "reflected" impedance of very low value. In effect, the voice coil is across a low value resistor. As an AC voltage is induced into the voice coil by the ripple on the field winding, the coil will generate a current and attempt to move in a direction that generates a counter EMF of equal value. In plain English, the speaker will hum!

A Simple Solution

The solution was both simple and elegant! The designers added a second winding, with as many turns as the voice coil, right over the field magnet assembly. The "ripple" would induce an equal voltage across this winding. But, when this winding is placed in series with the voice coil so that the two voltages in effect cancel each other out, the hum is gone! You can easily get this phasing confused when working on early speakers. Wired the wrong way, the voltages will add, and you will be chasing the source of the hum for a long time. This concept may be a bit difficult for the newcomer to visualize.

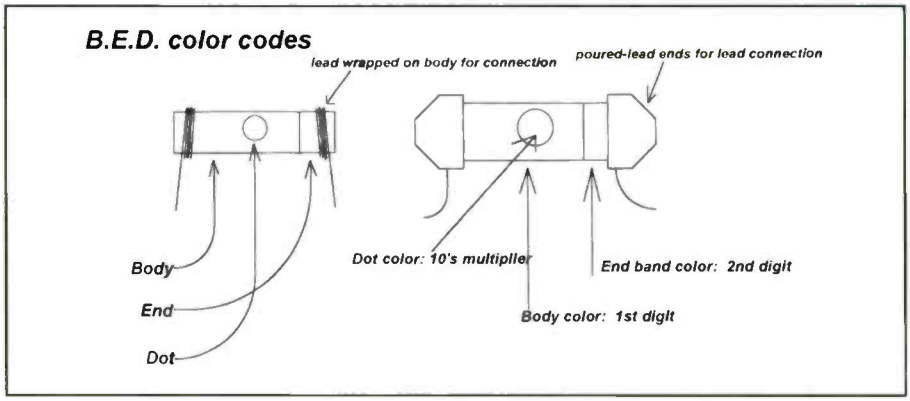


Figure 1. This time we got it right, I hope! This is the correct way to read Body-End-Dot early resistors.

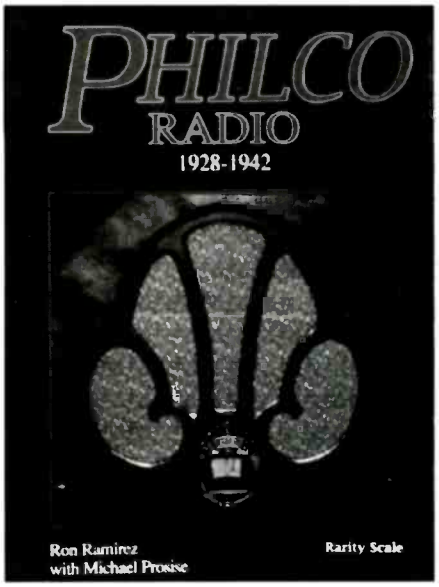
"Repairing" Old Tubes

I've seen folks discard older radio tubes because of simple problems that could be easily fixed with little work. One common problem is having the metal grid cap separate from the tube. This is an easy fix. I extend the grid wire using a length of tinned light gauge wire, then make a simple "hook" connection between the grid lead and the new extension piece, and solder. You will have to use some solder wick to remove the solder from the grid cap. The grid cap can now be remounted, and the connection resoldered. Once cooled, a few drops of Super Glue™ are allowed to flow between the glass envelope and the grid cap.

Besides loose grid caps, the adhesive between the bakelite tube base and glass envelope can also fail. When you try to remove the tube, you end up with broken pin wires, or worse yet, the glass envelope in your hand with the tube base remaining in the socket. The solder connection between the tube pins and the wire tube leads is made at the very end of the tube pin.

At least three of the tubes on the 89 chassis had the grid caps ripped off. This tube has an extension wire soldered to the small lead emerging from the tube, making an easy job of resoldering the old grid cap back on.

One problem that surfaced in the model 89 cathedral was an intermittent hum. The problem was eventually traced to the 80 rectifier tube. I found that one of the plate lead wires was making intermittent connection with the tube base pin. With the connection open, the tube was providing only halfwave rectification. The filter caps were too small to handle the additional ripple, and hum resulted. I



Ron Ramirez and Schiffer Publishing teamed up to produce this high-quality reference work. It is the bible of early Philco Radio for the collector.

used a high-wattage iron and resoldered all of the tube pins, allowing the solder to wick into the work. Again, Super Glue was used to restore the bond between the glass and old adhesive.

When removing grid caps, go gently. If the grid cap connector has a tight grip, use a screwdriver blade to keep pressure on the tube grid cap, while freeing and removing the grid cap connector. If possible, remove tubes by grasping the bakelite base, not the glass envelope.

Loose Ends

Last March, we discussed reading early resistor codes: the Body-End-Dot system. Unfortunately, it has been brought to my attention that some drafting errors listed the order in wrong sequence on the diagrams. The information given in the text was correct. To keep your library of past "Radio Connection" columns current, I am including a corrected drawing in this column. Remember, the first digit is the Body color, the second digit is the End color, and the final color marking — the Dot — is the decades multiplier value.

Meet Mr. Philco

An important aspect of collecting is developing an appreciation of the history behind those early companies that produced those sets in our collections. Ron Ramirez is a well-known Philco collector, and is the author of *"Philco Radio 1928–1942."* Ron has been interested in

"If possible, remove tubes by grasping the bakelite base, not the glass envelope."

radios nearly all of his life, and now specializes in Philcos. He owns over 40 Philco radios spanning from 1928 to 1937.

Ron's book traces Philco's beginnings to as far back as 1892, when its early founders were involved with the Spencer Company, a maker of early carbon-arc lamps. The Spencer Company went into bankruptcy as demand for the carbon-arc lamps waned by 1899.

In 1906, the Philadelphia Storage Battery Company was formed. The core business was storage batteries for electric automobiles and mining locomotives. Many other early American radio companies shared a similar connection with the fledgling automotive industry, notably Atwater Kent and United American Bosch who originally manufactured magnetos and early ignition systems.

Several chapters are devoted to the sets made by Philco between the years 1928 and 1942. Whenever possible, the sets are shown in full color plates — and the photography is excellent. In instances where the model is rare, or was unavailable for photographing, the original Philco catalog photos are used.

Later chapters show the tube layouts for the various Philco sets — a vital accessory when dealing with the many chassis variations of Philcos that shared the same model numbers. A "rarity" guide is also included. Since prices are so volatile and regional, the author avoids attempting to place monetary values on the radios.

The final chapter covers Philco's later history, from 1943 to present day. I can't imagine not having Ron's book on hand. I read it cover to cover the day it arrived; I just couldn't put it down until it was finished! I heartily recommend this first-class book!

Philco Radio 1928 to 1942 is published by Schiffer Publishing and may be ordered from Antique Electronic Supply, or the Antique Radio Classifieds bookstore.

See you next month. Happy collecting! Please keep the old radio stories and photos coming. ■

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Scanning The Globe

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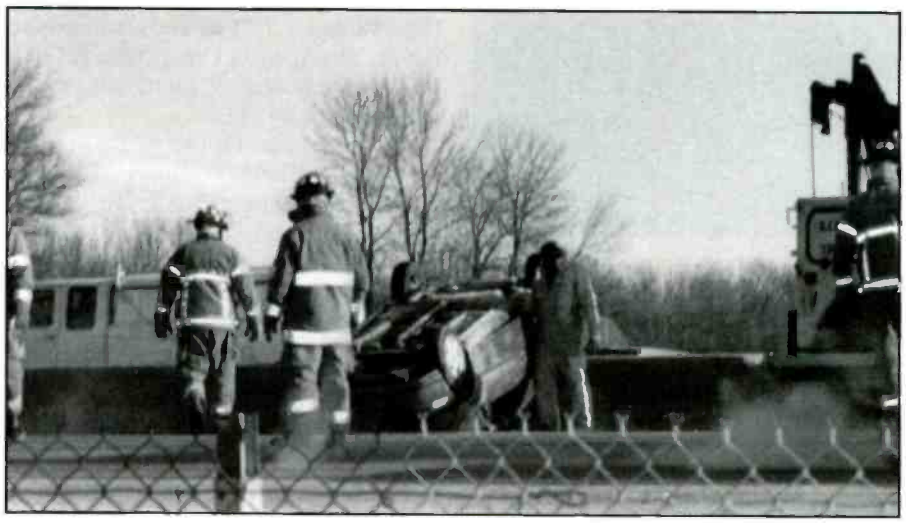
BY CHUCK GYSI, N2DUP
<SCAN911@AOL.COM.

Finding The Ones That Almost Got Away, And Fixing Older Scanners

It's summer. Is it time to go fishing? We're not talking about fishing on a body of water, but an ocean of frequencies. Do your scanners have the same old frequencies programmed in every day of the year? Are you possibly scanning frequencies that are no longer being used in your area?

One idea that I subscribe to is to searching or tuning through the scanner bands periodically. You just never know what new frequencies might pop up unless you go searching for them. For instance, your local police department could add a chatter, or car-to-car channel, the fire department could start using a fireground channel, and a railroad in town may start using a new yard channel. Using your local frequency guide, you can check to see what frequencies already are being used in your area. Search around those same frequencies for new ones, especially for public safety users. For instance, if your police department uses 460.050, and it adds a chatter or car-to-car channel, there's a good chance it will be in the 460-MHz range, i.e., 460.025 to 460.550. There's always the possibility it might show up similarly in the mobile-only 465-MHz range from 465.025 to 465.550, or more discreetly in the 458-MHz mobile-only band. But if you don't go searching, you won't ever find them.

It also should be noted that new car-to-car or chatter channels can appear right under your nose without your knowing they're in use. With the scanning two-way radios that most agencies use these days, there is no need for an officer to tell another to switch to a different frequency, if they normally monitor the dispatch channel on a priority basis. He or she simply places the call on the alternate frequency, perhaps stating while calling that they are on the alternate channel, i.e., "Car 16-10 to 92-11 on F4." Because the other two-way radios in the system are scanning, the message isn't missed and there is no need to tell the unit to switch to the other channel. And you won't ever find that new channel unless you are fishing — waiting for a nibble. So, while the weather gets warm around the nation this summer, go fishing for new frequencies and let us know what you find. With many people outdoors for the summer, it's a great time to scan and search. More general activity equals more radio activity.



Accidents like this rollover on an interstate bring out several agencies, not just police; there's fire, medical, and other agencies that come to life on a trunked system.

Tone Tip

Here's a tip I'd like to pass along to readers. If you like to monitor a local, state, or federal agency that uses digital encryption (that annoying static), you don't have to go berserk listening to all the racket every time calls are encrypted.

If you have a scanner capable of decoding CTCSS tones, try this: By programming in the correct CTCSS tone the agency uses, you will be able to hear any clear voice communications. However, if the agency transmits digital encryption, the receiver will not open, and you won't be bothered by the static.

For those who like to monitor federal agencies, here are some nationwide CTCSS tones used by federal agencies: FBI, 167.9 Hz; Drug Enforcement Agency, 156.7 Hz; Secret Service, 103.5 Hz; Federal Communications Commission, 173.8 Hz. (Note, these aren't scanner frequencies; they are the pitch of subaudible tones measured in hertz and are used to unmute receivers in two-way radio systems). Only certain scanners have optional CTCSS decoders. In addition, some computer-based add-on products are available for higher-end scanners. Check the ads in *Pop'Comm* for companies that sell these devices and software.

Plugged In

Tim Hurley of Schaumburg, Illinois, says he likes reading *Pop'Comm* each month, and has been a faithful reader for 10 years. He says he likes turning to "Scanning the Globe" first to grab some listening tips from other readers.

Tim says he enjoys monitoring local police and fire departments, but some local trunked public safety systems can best be described as a "junkyard."

Thanks for the comments, Tim. While public safety trunked radio systems on the 800-MHz band usually do give you more than you bargain for in terms of monitoring, I feel that they actually can enhance your listening. For instance, perhaps you didn't monitor your city's water

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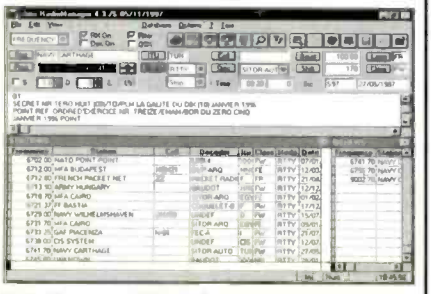

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utility before they moved with the police and fire to a trunked system. However, now you hear them — whether or not you want to. Sure, there's not much exciting about hearing the utility workers hanging delinquent notices on front doors, but the next time the fire department has a multi-alarm fire, keep in mind that the water utility may be requested to respond to boost water pressure for fire fighters at the scene. Likewise, city buses may use the same trunked system, and you can hear their dispatcher rerouting them around a fire scene. All the communications relate to the same incident. While it won't occur on a daily basis, you will hear a lot more when there's a major event in town. Thus, look at public safety trunking as an enhancement to your monitoring, even if you have to take all the routine and boring stuff. It will pay off over time. Patience is the key here.

Frequency Helper

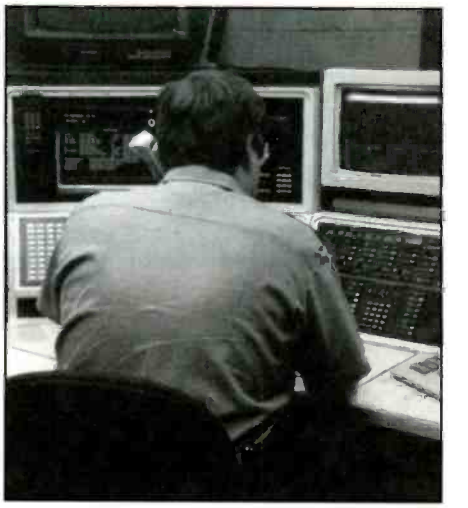
Zip Tarkas of Clearwater, Florida, says he appreciates seeing *Pop'Comm* on the World Wide Web now. Have *you* checked our site at <http://www.popcomm.com>? Zip is a long-time scanner enthusiast, starting with a Bearcat 101 way back when (that was also my first programmable!).

Zip notes that his local RadioShack stores have always helped him a great deal on his scanning adventure. He says most local stores have a listing of local frequencies that is free for the asking. In fact, not only RadioShack stores, but also other scanner shops maintain a local listing of frequencies that can be obtained on a handout flier just for requesting it. If you're traveling, it doesn't hurt to stop at a local shop to see whether they can help you find some exciting local frequencies.

Zip says that there are many more frequencies he likes to monitor, but he can't identify them. He purchases *Police Call Plus* every year and uses it as a scanning aid. He notes that *Police Call Plus* is an excellent book, and that it truly makes scanning interesting. However, he wants to know how he can identify the user of newly found frequencies.

First, be sure to catch some identifier. Quite often in the public safety radio services, callsigns are used, and you can cross-reference those with the listings in *Police Call Plus* or on a frequency CD-ROM if you have one. Look under the frequency you are monitoring and see whether the callsign — or one very similar — is shown. In some areas, base stations operated by public safety agencies identify just by the last three numbers in their callsign. For instance, an agency may identify their base station as "750" if their callsign is KLL750. You'll have to look through all the stations licensed on that frequency to see whose callsign matches the identifier. Outside of that, you can try to identify stations by the locations where units are dispatched. For instance, if you hear a unit responding to an accident on Interstate 80 near Dubuque Street, that helps narrow down the possible stations,

Don't forget to search for often-hidden mobile public safety comms that can be happening right under your nose.



In order to catch all the radio activity in your area, be a frequency detective. By listening carefully to public safety comms, make note of callsigns or identifiers and then cross-reference them in frequency directories or CD-ROMs.

if you look for towns located along Interstate 80 in *Police Call Plus* under the respective frequency. Another possibility is the names of places within the town that units are dispatched to, such as a mall or park. By tracking locations heard by a particular agency, you may be able to figure out what town you are monitoring.

Fixing Oldies

Sam Oley of Plymouth, Minnesota, sent an e-mail saying he has a Uniden Bearcat 210XLT scanner that works "good sometimes," but he doesn't want to part with the radio. In other words, it's an oldie, but goody. He asked whether we could steer him to someone who can check and repair the radio. He says he really doesn't want to get rid of the scan-

The summer '98 version of the "Spectrum" CD-ROM from Percon Corp., sells for $37.45 (includes two-day shipping) and includes a huge U.S. database of frequencies. For more information, check out their Web site at <http://www.perconcorp.com>.

ner, but he'll have no choice if it is beyond reasonable repair.

One company we've heard about favorably over the years is G&G Communications, at 9247 Glenwood Drive, Leroy, New York 14482, phone 716-768-8151. They repair most types of scanners and will attempt to fix almost any scanner with only a few exceptions. They stock a large inventory of replacement parts for many makes and models and also usually have as many as 500 dead scanners for parts salvage. In fact, if you have a dead scanner that is beyond repair, they may be interested in buying it from you to use for parts!

G&G Communications performs repairs for a flat fee plus additional costs for parts and shipping. Also, if you are looking for used Regency (10.7-MHz IF) or Bearcat-type (10.8-MHz IF) scanner crystals, G&G stocks many different frequencies. Call or write to them for details.

It's Your Turn To Write To Us!

What are your favorite frequencies? Do you have any scanner-related questions? Do you have any listening tips worth passing along to your fellow readers? How about sending in a photo of your listening post or antenna farm? Write to Chuck Gysi, N2DUP, "Scanning the Globe," *Popular Communications*, Box 11, Iowa City, Iowa 52244-0011; fax to 516-681-2926; or e-mail to <SCAN911@aol.com>. Make sure you indicate in your e-mail that you are writing regarding this column. ■

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CIRCLE 91 ON READER SERVICE CARD

ScanTech

BY KEN REISS
<armadillo1@aol.com>

TRUNKING, TIPS, TECHNIQUES, AND MODS

Reaching For The Top!

"Why would you spend that much money on a radio?" is a question that gets asked quite often when people begin discussing the higher end of the market. It's particularly asked by scanner enthusiasts. There are perfectly good scanners out there for $200, and even top-of-the-line units can be had for around $500 or less. Why would anyone buy a $2,000 ICOM or AOR receiver?

There's an old saying that goes something like "If you have to ask, you shouldn't." There's a LOT of truth in that. If the specs on the high-end equipment don't impress you, then you will probably not see enough extra performance out of the high-end unit to justify the cost difference. Wait a while. It's very helpful if you've owned a few other receivers first, so that you will appreciate the subtleties of the higher-end units.

The higher-end units are not considered "scanners," but rather "communications receivers." There's a subtle difference here, too, but one which disappoints many who jump into a high-end unit. The radio does not act much like a scanner. The high-end ICOMs, with the exception of the recent R-8500, and possibly the earlier R-9000, make not-so-great scanners, except under computer control. What's the deal?

The deal is primarily that these receivers are built more as communications monitors, that is to say, built to squeeze every last bit of signal possible out of the sky, rather than as high-end scanner receivers. Our scanners are built to cover a wide range of frequencies and to step from channel to channel as fast as possible so that we can find the action as it happens. A communications receiver might spend its entire career on one frequency in industrial or government service. As scanners, they tend to be a bit disappointing, if not downright intolerable. Some will not really scan in a manner that's useful for us scanner folks without computer control. If you don't believe me, see if you can find someone who owns a Yaesu FRG-9600 and spend a few minutes with the rig.

The ICOM R-7000 was the first high-end communications receiver widely available to hobbyists. Some swear by it as one of the most sensitive receivers ever built, while others swear it was one of the worst scanners.

So what you're paying for in these receivers is high-end performance, not as a scanner, but as a receiver. You'll find much less overload, intermod, and other forms of interference in these receivers. And they will hold up under very strong adjacent channel situations without succumbing to the strong signal next door, but correctly processing the weaker signal that you're tuned to. No scanner in the consumer market can claim that.

Those Technical Specs Again!

For those of you into technical specifications, what you're paying for in a high-end receiver tends to be selectivity and dynamic range. (See the April '98 "ScanTech" column in *Pop'Comm* for definitions of these and other terms.) The sensitivity of most of our consumer scanners is just fine. It's these other specifications of selectivity, the ability to pick out just one channel on a desired frequency and not be bothered by signals on nearby frequencies; and dynamic range, the ability to maintain performance in the presence of extremely strong signals, but still process the weak ones.

A perfect example of this situation is our local precinct. It is about one mile from my house and, of course, always has a strong signal at my location. Recently, I started noticing that I was getting that channel in some very strange places, and that I was getting a desensitization problem on some other radios any time this particular frequency was transmitting. It happens that the coordinator for communications is in our scanner club. At the next meeting, in the process of bringing us all up to date on what was new, he informed us that they had increased the transmitter power and realigned the antenna to be pointing pretty much straight at my house. Oh boy. It turns out they weren't out to get me personally (though I must admit that thought crossed my mind for a few minutes), but rather to increase their signal coverage in the western part of the precinct where they'd recently made some district changes.

The high-end receivers could handle this excess power with little problem. But the regular scanners, including the good old 2006, had a lot of problems for quite a broad range of frequencies around that area, all because the receiver just didn't have the circuitry to handle the load. That's not to say that there's anything

Here's AOR's AR-5000 receiver. It's touted as their best ever.

The ICOM R7100, with 1,000 memories, represents quite a leap forward. This receiver still shows up on the used market. Just be careful about which version you're buying.

wrong with the 2006; on the contrary, it's an excellent scanner. But it's not built to the same specs as the top receivers. It didn't cost nearly as much either.

Recently, most of the high-end units have included frequency coverage that also extended down into the shortwave spectrum. This can be a great draw if you're only interested in having one receiver, for some strange reason. (Ken's Law: You can never have too many radios.) You'll usually find a separate connector on the rear panel for an HF and VHF/UHF antenna. This is almost essential because the performance over these wide frequency ranges simply cannot be supported by a single antenna, no matter what the design. It's important for you to find out about the antenna switching technique. Some receivers switch by themselves at some particular frequency; others allow the operator to switch antennas through a control on the front panel. Beyond that, some receivers also allow the VHF/UHF ranges to be divided, or at least served by multiple antennas, that can be selected manually.

Another problem with high-end receivers is that they are becoming somewhat of a rare breed. With the passage of the ECPA, manufacturers were forced to delete frequency ranges from these units. Hardest hit was ICOM, which had no easy way to delete just the particular frequencies called for, and so wound up deleting the entire 800- to 900-MHz range. Ouch. Of course, the recent introduction of the 8500 has cured this problem, but the 9000, which some say is the best all-around receiver ever made, is no longer available to consumers. That's a bummer. There are a few floating around on the

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CIRCLE 77 ON READER SERVICE CARD

The widely touted 8500 is ICOM's current top-of-the-line consumer receiver. It is certainly one of the most versatile receivers on the market at any price.

used market, but they still command quite a price, and are increasingly difficult to find. It seems that most owners must be recognizing what they have and are hanging on to them.

Specific Models

Here's a brief summary of some of the high-end units that you'll see floating around on the used market. Most of them have been discontinued, and so the used market is the way to get there.

• AOR AR3000

AOR has made some neat stuff over the years, and the 3000A was one of their best. It's still widely available both new and used. It has 400 channels in banks of 100 each, but you can't scan between banks without computer control. It's a very sensitive receiver and somewhat prone to overload because of this. The 3000A is also the smallest of this group, so it makes an excellent mobile unit.

• AOR AR5000

The AR5000 is being touted as their best ever, and from what little I've seen of this receiver, it could be true. This is a wideband receiver with the broadest coverage available. Sensitivity is also reported to be very good on this unit.

• ICOM R7000

This is an early receiver from ICOM. In fact, it's their first consumer-grade communications receiver from the early '80s. These do show up on the used market from time to time and make excellent receivers. For the most part, it's a terrible scanner, as it's limited to 100 memory channels. But it's a great receiver. It is interesting to note that ICOM still lists this as a current model available to authorized users only, as there is not a cellular blocked version.

• ICOM R7100 A&B

The R-7100 was a much-improved upgrade on the 7000. More memories (1,000) and a much needed revision of the scan controls make the 7100 a much better scanner. Some have argued that the 7100 might be the best bang for the buck in communications receivers, and I'm not sure I could argue with that. They still show up used on a fairly regular basis, some of them with pretty good prices.

The only thing to watch for is the "A" versus "B" models. The "B" came out after the ECPA required the cellular frequencies to be deleted, and, unfortunately, ICOM's only solution seems to have been removing the entire 800- to 900-MHz range. I don't believe the "A" is marked; the "B" model is called a 7100 B.

• ICOM R9000

The R-9000 is said to be the ultimate dream receiver. At a list price of $7,500, it should be. What makes this receiver unique is the TV screen in the middle of it, which is used not only to access the receiver's many menus and controls, but also to display a spectrum analyzer, if desired. In reality, the spectrum analyzer turns out to be not quite as useful in scanning as it might be for other purposes because it can only cover 200 kHz of spectrum at a time. However, the receiver also covers the HF portions of the spectrum, and there the analyzer really shines.

As a receiver, it is second to none in the consumer line. Dynamic range is very good; sensitivity and selectivity are right up there with it. It's built like a tank and almost as large as one. Inside, lots of shielding prevents the CRT and other computerized portions from interfering with the receiver. I've read that in some lab tests, there was a measurable noise figure generated internally, but I have certainly not been able to detect it when using the receiver.

Technically, the 9000 is still available, but only to qualified agencies, etc., in the U.S. because of its wide frequency coverage. Once in a while, a used unit appears on the market, but, more often than not, what you'll see in the used market is people advertising that they're looking for one. There were not a whole lot of them sold, and the people who have them don't seem to be anxious to get rid of them.

• ICOM R8500

The 8500 is ICOM's current "top-of-the-line" offering for consumer equipment. A wide-coverage machine, it's built with technology 10 years newer than the 9000. In fact, when ICOM introduced the 8500, they referred in the ads to R-9000 technology at an affordable price. I'm not sure how affordable $2,000 is, but it is better than the $7,500 for the 9000!

The 8500 does not include the CRT. It does, however, include just about everything else the 9000 does, and a few new tricks of its own. All the memories have alpha tags, which are not difficult to enter, and each of the 20 banks can also have an alpha tag.

As a receiver, the 8500 is on a par with the 9000. I have not been able to test them side-by-side with the same antenna, but I wouldn't want to put any bets on which one would come out ahead either. (Sounds like a good "ScanTech" project coming soon!) The sensitivity and selectivity of the 8500 are excellent, and it seems to hold its own in strong signal environments. Inside, it's well built with an all-metal chassis and lots of shielded areas.

• Yaesu FRG-9600

This radio is also discontinued, but appears from time to time on the used market, although it usually doesn't stay on sale long. I think there is as much nostalgic/collector value in this receiver as there is true demand for it as a radio. It's starting to show its age a bit.

It is one of the most sensitive receivers

The Yaesu FRG-9600 can still be found on the used market, but grab it quickly. There's as much nostalgia value in this receiver as there is actual interest in it as a receiver. It isn't worth much as a scanner, but it's a very sensitive receiver, even by today's standards.

I have ever used, and probably the worst scanner. It just barely can scan 10 channels at a time. Dynamic range and selectivity are good, although not up to the same standards as some of the more expensive units above. Under computer control, it can be made to perform quite well, and can be found at a bargain price. It's an older design, so it doesn't have some of the fancy features of newer radios.

In The Future

And that, unfortunately, pretty well sums up the high-end market. There just aren't a lot of contenders out there. In the future, we may see more cost-effective receivers that begin to approach or exceed the capabilities of these, as technology evolves. Or we may see more and more "consumer"-grade scanners as interest by the serious listener who buys these receivers falls away. It will be interesting to see. I hope this has helped you to understand what's in those magic boxes, and why they're so expensive. It may turn out that you decide you're much happier with the equipment you have now, and then look at all that money we've saved you. That alone should help to justify your subscription to *Popular Communications*.

Photo Opportunity

We're looking for pictures of your listening setup. If you've got a good photo of your listening post that you can spare (sorry, pictures won't be returned without an SASE), send it in! Got an opinion on how to design a good listening post? Send that in, too. And, of course, your comments and questions are always welcome at <armadillo1@aol.com> or via snail mail at 9051 Watson Rd. #309, St. Louis, MO 63126. Until next month, good listening. ■

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Is It Time For A NEW CB Service?

Almost every packet of mail I receive from the readers of this column contains a letter that reads something like this: "I used to really love CB radio. My wife and I used it all the time to stay in touch, but now there are so many troublemakers on the air that I hardly use it anymore. I think maybe they should never have dropped the licensing requirement . . . ."

Then the letter goes on to describe some of the shocking behavior that has been heard on the air and to ask if anything can be done. The bottom line: Troublemakers have taken a wonderful hobby and messed it up.

These letters always provoke mixed reactions in me. On the one hand, I can certainly sympathize and relate to what the writer is saying. I, too, have heard simply awful stuff on the air. And it certainly seems that the troublemakers are more numerous and irritating than ever before. But then I have to remind myself that every packet of mail to this column also contains numerous letters from good, decent people who represent the very best of CBing.

My best guess is that 2 percent of the current crop of CBers cause 98 percent of the problems. There are a lot of good folks out there, but they just don't make as much noise as the malcontents.

It's important to remember, too, that it wasn't lack of licensing that caused the FCC to lose control of the CB radio service. It was the other way around. CB was already out of control — there were so many people who simply bought a CB and got on the air without a license, even when licensing was required, that the FCC saw no reason to continue a pointless exercise.

For more information on the history of CB, check out a copy of *TomCat's Big CB Handbook*, written by *Pop'Comm's* own Tom Kneitel. Tom is, first of all, the best radio writer on the planet (in my humble opinion). And second, as the long-time editor of a couple of CB magazines, he has forgotten more about CB radio than most of us remember. If you don't already have a copy of this book, you need one.

Is this what the future of CB looks like? (Courtesy Cherokee)

It's an informative and entertaining read and shouldn't be missed by any CBer. You can order your copy from CRB Research. Their address is in the classified section of this issue.

Getting Back To Basics

In a very real sense, CB was never *intended* to be a hobby; it was supposed to be a communications tool for ordinary citizens. Even today, CB Rule 1 reads: "The CB Radio Service is a private, two-way short-distance voice communications service for personal or business activities. The CB Radio Service may also be used for voice paging." That sure doesn't sound like the CB radio service that I use every day. I suppose if you define skip shooting, noisemaking, and hell-raising as "personal activities," then CB, as practiced, fits the rule. To be sure, some businesses do use CB for communications: truckers use it for over-the-road communications, and REACT and other groups provide traveler's assistance and emergency communications. But still, if you try to use CB as a reliable means of staying in touch with your family, particularly when the skip is running, it can be very trying indeed.

Now, don't get me wrong: I love CB as a hobby and enjoy ragchewing with folks on the local channels. It never ceases to amaze me that one moment I can be talking to a station a few miles away and then — WHOOSH! — the skip rolls in. Suddenly the local station disappears, and I'm chatting with someone a few states away. There's a kind of magic to long-distance propagation that never goes away. That kind of unpredictability makes for a great hobby and a highly UNreliable communications tool.

There's no mystery to why this happens. The 27-MHz CB service was created by taking the 11-meter band away from the hams. It was a ham DX band to begin with, and, as long as there is an 11-year sunspot cycle, it will continue to be a DX band. Skip will happen, no matter what the FCC says. That's why the FCC rule making it illegal to "communicate with, or attempt to communicate with any CB station more than 250 kilometers (155.3 miles) away" is a total crock. You might just as well formulate a rule that makes it illegal for it to rain on weekends. *(Jock, that sounds like a winner to me! Ed.)*

Fixing It

But what if you still want a RELIABLE short-range communications tool for ordinary citizens? Is there a way to achieve that? Ken Collier has argued eloquently in *Pop'Comm* for changing CB over to FM mode. Certainly that would help, but it doesn't go far enough. To really succeed, there needs to be a new CB

service, *in a frequency range that doesn't provide long-range propagation.* If you take away the skip, you take away many (not all) of the problems.

Bob Leef, president of CREST Communications, and Bill Continelli, a REACT member and friend, and I have been informally bouncing around concepts for "fixing" CB radio. A big tip of the hat to them — their ideas have been instrumental in developing what follows, but any errors are mine.

The Family Radio Service (FRS) could be the place to start. I've done quite a bit of experimenting with these tiny, 1/2-watt FM transceivers that operate in the skip-free 462- to 467-MHz range, and I am impressed with how well they work. They offer crystal-clear communications over distances of one to two miles, and work quite well between vehicles at distances of up to half a mile.

There are 14 channels set aside by the FCC for use by the FRS:

FRS Channel Assignments

Channel	MHz
1	462.5625
2	462.5875
3	462.6125
4	462.6375
5	462.6625
6	462.6875
7	462.7125
8	467.5625
9	467.5875
10	467.6125
11	467.6375
12	467.6625
13	467.6875
14	467.7125

The first seven FRS channels are the same as the so-called "splinter" channels from the licensed General Mobile Radio Service (GMRS). That means FRS and GMRS share these channels. It also means that people with FRS and GMRS radios can talk to each other on these frequencies.

Many of the FRS handi-talkies offer sophisticated functions, such as so-called CTCSS (Continuous Tone Coded Squelch System) "privacy" codes. When activated, these codes **do not** render communications private. Instead, they mute the receiver at all times except when the proper tone code is received. So, if you don't want to hear other people's transmissions, simply have everyone in your group activate the same CTCSS code, and all other conversations will be locked out.

As currently configured, FRS radios are limited to 1/2-watt handi-talkies that have non-detachable antennas. The intent of this is to prevent interference problems by limiting the range and to prevent the use of power amplifiers or external antennas. The problem is that the range is a little too short.

So I'd like to propose some modifications to the FRS radio service to create the Class A Family Radio Service. First, the power on channels 1 through 7 should be increased to at least 2 watts and no more than 5 watts. In addition, the use of external mobile and base antennas would be

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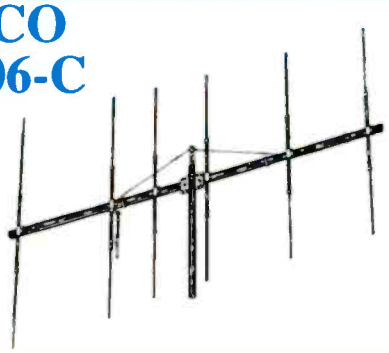

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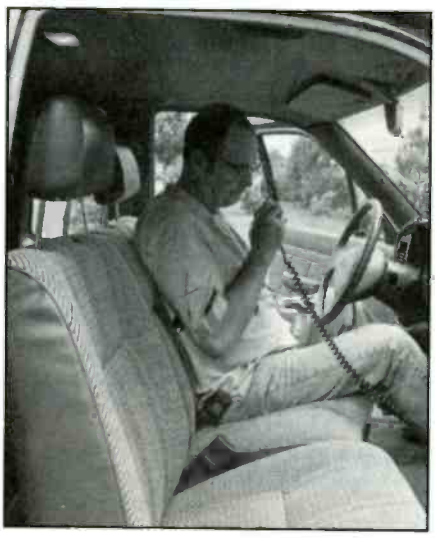

Could this fellow be calling his base on the proposed Class A Family Radio Service?

A Serious Proposal Needing YOUR Feedback!

Editor's Note: Jock's proposal for a Class A Family Radio Service could be the best thing that's happened in personal communications in many years. We've set aside a special mailbox for your cards, letters, and e-mails on this topic. Please address comments to Class-A FRS, c/o Popular Communications, *25 Newbridge Road, Hicksville, NY 11801 or send via e-mail to either Jock at <lightkeeper@sprintmail.com> or Pop'Comm HQ at <popularcom@aol.com>.*

How about it Kenwood, Yaesu, ICOM, Cherokee, Midland, Cobra, and Motorola — doesn't this CB fix have your name on it, too? Sounds like a good idea to us, but it needs your support to make it happen. Let us know what you think today. It would seem the time has come to stop talking and start acting!

allowed. Based on the results of some experiments that co-columnist Ed Barnat and I conducted, this should increase the range between mobile units and base stations to about five to eight miles.

The power on channels 8 through 14 would remain limited to 1/2 watt, which works just fine for communications around the neighborhood, in shopping malls, at amusement parks and campgrounds, and so forth.

A 15th channel would be added, the GMRS traveler's assistance repeater pair: 467.675 (input)/462.675 (output) with 5 watts transmit power. Use of this channel would be limited to emergency communications and traveler's assistance only. Since this is the repeater pair most often used by REACT teams who have a GMRS repeater, this would actually assist those teams in providing emergency communications and traveler's assistance to the general public.

Now, I can almost hear what you're thinking. If you allow the use of external antennas (which would permit a power amplifier to be put in line) and the use of a repeater, how are you going to prevent the riffraff from raising hell and turning this new radio service into what 27-MHz CB is now? The answer: Trouble will be headed off at the pass through a couple of cute tricks. First, every radio would have a unique identity code that would be transmitted as a short digital burst at the end of every transmission. With the proper equipment, this transmitter ID could be decoded and read. Second, when the radio is purchased, the radio itself is licensed at the point of purchase. This registration, which contains the name, address, and other pertinent information about the purchaser, would then be electronically filed with the FCC. If someone is found to be misbehaving on the airwaves, it would be easy enough to identify the unit itself and trace it back to the purchaser.

It would be illegal to permanently transfer a radio to someone else without updating the license of the radio. So, if you purchase three or four radios for use by your family, they could all be registered to one person. But if you give one to a friend as a permanent gift, or sell a radio, you would have to fill out and mail in a card that updated the registration.

The upshot of all this is that the new Class A Family Radio Service could provide clear short-range communications between handi-talkies, longer range local communications between vehicles and base stations, and emergency assistance for travelers on the road. In addition, there would be a means of tracking and identifying those who feel the rules don't apply to them.

And what would I do with the current 27-MHz CB band? I'd leave it just as it is. So there it is: Uncle Jock's modest proposal for fixing CB radio. Whaddya think? Write to me here at *Pop'Comm* or e-mail <lightkeeper@sprintmail.com>.

Wind River Modulators — Sideband From Cheyenne

Some time ago, I got a very nice letter from John, the coordinator of the Wind River Modulators, a highly successful sideband club operating out of Cheyenne, the state capital of Wyoming. John invited me to come visit, and while time and money didn't permit travel to Wyoming, it seems as if this club is very much a going concern. The club has 895 members from 50 states, plus 35 countries. Most of the members have been established through radio contacts. Club members operate on channel 23 and channels 35 to 40 on lower sideband. There are 15 to 20 members in the Cheyenne area, right in the downtown part of the central city.

Every night at 8:00 p.m. Mountain Time, some 15 to 20 people check into the nightly net. People use whatever numbers they want to use, along with the club name. John operates with a Cobra 148F GTL, a hand mic, and an Antron 99. John also has a Cobra 142 GTL with a Night Eagle KD104. Some of the other regular net members use Brownings, Trams, Cobras, and even some old Montgomery Ward 23-channel sidebanders.

The membership packet includes a club certificate, club patch, club directory, and 20 of the club QSL cards. T-shirts with the Club logo are also available. For more information about membership, send a self-addressed, stamped envelope to John or Colleen, P.O. Box 21026, Cheyenne, WY 82003.

Until next time, keep those cards, letters, and shack photos coming! Write to me here at *Pop'Comm* or e-mail me at <lightkeeper@sprintmail.com>. ■

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Copies most standard shifts and speeds. Has *MFJ AutoTrak*™ Morse code speed tracking.

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Indoor Active Antenna

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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. 3⅛x1¼x4 in.

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.

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.

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.

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The *Super Hi-Q Loop*™ is a professional quality remotely tuned 10-30 MHz high-Q antenna. It's very quiet and has a very narrow bandwidth that reduces receiver overloading and out-of-band interference.

MFJ-1782 **$269.95**

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"

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MFJ-108B **$19.95** MFJ-105B **$19.95**

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

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MFJ-1702B **$21.95**

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Pop'Comm's World Band Tuning Tips

June 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
0000	5012	Radio Cristal, Sto Domingo, Dominican Rep.	SS
0000	6055	Radio Exterior de Espana	
0000	7325	Radio Austria Int'l	
0000	7495	Kol Israel	Hebrew
0000	9615	Radio Cultura. Sao Paulo, Brazil	PP
0000	9630	Radio Aparecida, Aparedida, Brazil	PP
0000	9745	HCJB, Ecuador	
0030	4755	Radio Educacao, Campo Grande, Brazil	PP
0030	5770	Radio Miskut, Puerto Cabezas, Nicaragua	SS
0030	5890	Radio MI, Tegucigalpa, Honduras	SS
0030	5905	Radio Vilnius, Lithuania	
0030	7375	Radio Bulgaria	
0030	9685	Voice of Islamic Republic of Iran	
0030	9955	WRMI, Florida	EE/SS
0050	6010	RAI, Italy	
0100	4870	La Voz del Upano, Macas, Ecuador	SS
0100	4885	Radio Clube do Para, Belem, Brazil	PP
0100	4915	Radio Anhanguera, Goias, Brazil	PP
0100	4985	Radio Brazil Central, Goiania, Brazil	PP
0100	5260	Kazakh Radio, Kazakistan	KK
0100	5905	West Coast Radio Ireland	via Germany
0100	5949	Voice of Guyana	
0100	6200	Radio Prague, Czech Republic	
0100	7115	Radio Yugoslavia	
0100	11710	RAE, Buenos Aires, Argentina	SS
0100	11890	Radio Japan	via Sri Lanka
0100	59300	Radio Slovakia Int'l	
0130	4800	R. Buenas Nuevas, San Sebastian, Guatemala	SS
0130	5895	Voice of Greece	Greek
0130	7220	Radio Free Europe	unid
0130	9495	Radio Austria Int'l	
0130	9820	Radio Havana Cuba	
0130	9905	Swiss Radio Int'l	
0200	4820	Radio Tachira, San Cristobal, Venezuela	SS
0200	5045	Radio Cultura do Para, Belem, Brazil	PP
0200	9605	Vatican Radio	
0200	9840	Radio Budapest, Hungary	
0200	11620	All India Radio	
0200	11675	Radio Kuwait	AA
0230	6155	Radio Romania Int'l	
0230	7280	Radio Sweden	
0300	4775	Radio Liberal, Belem, Brazil	PP
0300	4980	Ecos del Torbes, Venezuela	SS
0300	6265	Radio Zambia	
0300	7100	Voice of Russia	
0300	7520	Radio Norway Int'l	NN
0300	9535	Deutsche Welle, Germany	
0300	9575	Voice of America	
0300	17675	Radio New Zealand Int'l	
0330	3210	Radio Exterior de Espana	SS, via Costa Rica
0330	3300	Radio Cultural, Guatemala City, Guatemala	
0330	4800	Radio Lesotho	
0330	5905	Voice of Vietnam	via Russia
0330	6000	Radio Havana Cuba	
0330	6010	Radio Budapest, Hungary	
0330	7160	Radio Tirana, Albania	
0330	7200	Radio Omdurman, Sudan	AA
0330	7215	Trans World Radio via South Africa	vern
0330	9690	China Radio Int'l	via Spain
0400	4919	Radio Quito, Ecuador	SS
0400	4950	Radio Nacional, Angola	PP
0400	5915	Radio Ukraine Int'l	
0400	5944	Channel Africa, South Africa	
0400	5960	Radio Monte Carlo, Monaco	AA, via Canada
0400	5980	Voice of Turkey	TT
0400	6085	Bayerischer Rundfunk, Germany	GG
0400	6135	Swiss Radio Int'l	
0400	7300	Voice of Turkey	
0400	9570	Radio Portugal Int'l	
0430	4770	Radio Nigeria, Kaduna	
0430	4914	Radio Cora, Lima, Peru	SS
0430	9525	Channel Africa, South Africa	FF
0430	9730	China Radio Int'l	via Fr. Guiana
0500	4820	La Voz Evangelica, Tegucigalpa, Honduras	SS
0500	5077	Caracol, Colombia	SS
0500	5100	Radio Liberia International	
0500	5882	Vatican Radio	

UTC	Freq.	Station/Country	Notes
0500	5910	Radio Vlaanderen Int'l, Belgium	DD
0500	6250	Radio Nacional, Equatorial Guinea	
0500	7375	Radio Bulgaria	
0500	9765	Channel Africa, South Africa	
0500	9975	KVOH, California	
0500	11905	Radio New Zealand Int'l	
0530	3366	Ghana Broadcasting Corp.	
0530	7250	Radio Rossi, Russia	RR
0600	6010	Radio Mil, Mexico City, Mexico	SS
0600	6015	Radio Austria Int'l	GG, via Canada
0600	7255	Voice of Nigeria	
0600	9810	Radio Kiribati	EE/vern
0700	4960	Radio Vanuatu	
0700	5020	Solomon Islands Broadcasting Service	
0700	6175	BBC, England	via US
0700	6575	Radio Pyongyang, North Korea	RR
0700	7280	Radio France International	FF
0700	9365	HCJB, Ecuador	
0800	4825	Radio Cancao Nova, Cachoeira Paulista, Brazil	PP
0800	4890	NBC, Papua New Guinea	
0800	4940	Radio Amazonas, P. Ayachuco, Venezuela	SS
0800	5860	HCJB, Ecuador	
0800	13670	Radio Korea Int'l., S. Korea	
0845	7120	IRRS, Italy	
0900	4832	Radio Reloj, San Jose, Costa Rica	SS
0900	6160	Deutsche Welle, Germany	via Antigua
0900	9700	Radio New Zealand Int'l	
0900	9905	Voice of Russia	
0930	6150	KNLS, Alaska	
1000	4790	Radio Atlantida, Iquitos, Peru	SS
1000	9740	BBC, England	via Singapore
1030	7185	Croatian Radio, Croatia	Croatian
1100	6520	Radio Pyongyang, North Korea	JJ
1100	7285	Radio Thailand	non-EE
1100	9370	KSDA, Guam	CC
1100	9580	Radio Australia	
1100	9650	Radio Korea Int'l., S. Korea	EE/KK
1130	5055	Faro del Caribe, San Jose, Costa Rica	SS
1130	9505	Radio Prague, Czech Republic	
1130	9710	Radio Australia	
1200	4753	RRI, Ujung Pandang, Indonesia	II
1200	4835	Radio Tezulutlan, Coban, Guatemala	SS
1200	6020	Radio Australia	
1200	6150	AWR, Costa Rica	
1200	9715	Radio Tashkent, Uzbekistan	EE, other
1200	11600	Radio France International	
1200	12085	Voice of Mongolia	
1200	17715	Radio Exterior de Espana	SS
1230	9725	AWR, Costa Rica	SS
1230	9810	Radio Thailand	
1230	11650	Radio Sweden	
1230	15540	Radio France International	via Gabon
1230	15630	Voice of Greece	Greek
1239	7125	Radio Japan/NHK	
1300	11815	Polish Radio	
1300	15445	Radio Nacional, Brazil	
1315	13680	Radio Vlaanderen Int'l, Belgium	
1330	13800	Radio Denmark	DD, via Norway
1400	9530	Radio Thailand	
1400	11990	Radio Jordan	
1400	12120	Voice of Hope via Georgia Republic	
1400	13580	Radio Prague, Czech Republic	
1400	13635	Swiss Radio Int'l	
1400	13675	UAE Radio, Dubai	
1400	15615	Kol Israel	Hebrew
1430	9535	China Radio Int'l	
1430	11695	Voice of Russia	
1430	11935	Radio Canada Int'l	
1430	11965	Broad. Svc of Kingdom of Saudi Arabia	AA
1500	7240	Radio Japan NHK	
1500	11760	Radio Republik Indonesia	II
1500	11785	Radio Finland Int'l	Finnish
1500	11890	Radio Oman	AA
1600	9485	Radio France International	
1620	11900	Radio Finland Int'l	
1630	11905	RAI, Italy	GG
1700	11715	Radio Exterior de Espana	AA
1700	11845	BBC, England	via Cyprus
1700	12050	Radio Cairo, Egypt	AA
1700	13765	Vatican Radio	
1700	15435	Radio Jamahiriya, Libya	AA
1730	9590	Radio Denmark	DD, via Norway
1730	11570	Radio Pakistan	
1800	9200	Radio Omdurman, Sudan	AA
1800	9500	Trans World Radio, Swaziland	
1800	9510	BBC, England	
1800	9780	Republic of Yemen Radio	AA
1830	15240	Channel Africa, South Africa	FF
1900	9555	Broad. Svc of Kingdom of Saudi Arabia	AA
1900	9705	Radio Mexico Int'l	SS
1900	9965	Radio Norway Int'l	
1900	11835	BBC, England	via Ascension
1900	15200	Radio Portugal Int'l	PP
1930	9022	Voice of Islamic Republic of Iran	
1930	9605	Radio Netherlands	via Madagascar
1930	11734	Radio Tanzania, Zanzibar	Swahili
1930	12015	HCJB, Ecuador	
1930	17705	Voice of Greece	Greek
1945	9465	WMLK, Pennsylvania	
1945	15050	RFPI, Costa Rica	SSB
2000	7210	Qatar Broadcasting Service	AA
2000	9400	WGTG, Georgia	
2000	17830	BBC, England	
2030	6095	Polish Radio	
2030	7285	Polish Radio	
2030	9580	Africa Number One, Gabon	FF
2030	9850	Radio Cairo, Egypt	AA
2030	11945	Radio Canada Int'l	FF
2030	15485	Voice of Greece	Greek
2100	11785	Radio Iraq Int'l	AA, irregular
2130	9615	Deutsche Welle, Germany	
2200	5810	Radio Taipei Int'l, Rep. of China	via WYFR
2200	7520	Radio Moldova, Moldavia	
2200	9700	Radio Bulgaria	
2200	9985	Radio Taipei Int'l, Rep. of China	
2200	11925	Radio Bandeirantes, Sao Paulo, Brazil	PP
2200	13820	Radio Marti, Washington, D.C.	SS to Cuba
2300	5955	Radio Romania Int'l	
2300	9855	Radio Kuwait	
2330	11615	HCJB, Ecuador	PP
2330	11780	Radio Nacional Amazonia, Brazil	PP
2330	11785	Deutsche Welle, Germany	GG

Product Parade

BY HAROLD ORT AND R.L. SLATTERY

REVIEW OF NEW, INTERESTING, AND USEFUL PRODUCTS

Sony Electronics, Inc., Announces Two New Scanners

Sony has re-entered the scanner market with two new handheld scanners, the ICF-SC1PC and the ICF-SC1. Each is a PLL synthesized triple conversion superhet circuitry scanner with 300 memory channels in 10 banks, covering 25 to 1300 MHz (less cellular). Features include one-button access to nine public service bands using pre-programmed "service scanning" (police, aircraft, fire/emergency, weather, marine, FM broadcast, and TV audio); Intelligent Active Memory System which memorizes a frequency which has been active for five seconds or longer, and scans all frequencies in the Intelligent Memory database; a variety of programming and scanning options; direct manual tuning; three-way power operation (four "AA" optional batteries, car battery with optional car battery cord, or AC power, with supplied adaptor); and backlit LCD.

The ICF-SC1PC, which has a suggested retail price of $429.95, includes a CD-ROM database with over three million records, a computer interface cable, and software. The user can tailor searches and create custom files for easy access to favorite listening areas.

Sony's new handheld 300-channel scanner ICF-SC1PC is computer interfaceable and includes an extensive CD-ROM frequency database, and interface cable.

Sony's SC1 scanner, while not PC interfaceable, includes the basic features of the SC1PC and is available for a suggested retail price of $329.95. For a fax-by-demand sheet on the scanners from SONY, call 1-800-222-SONY (7669), or for more information, visit their Web site at <http://www.sony.com>.

New Cobra TURBO Power Inverters

Cobra Electronics has announced a new line of TURBO power inverters that allow users to operate a wide range of products while away from standard power outlets. The inverters convert 12-Vdc battery power into 115 Vac.

Simply plug the inverter into a vehi-

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CAT-5000 — Only $99.95 + S&H

SPECTRUM ANALYSIS ON YOUR PC

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

Supports

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

Features *Indicates for above listed radios only.

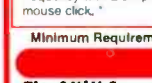
- Variable bandwidth, up to 10.7 MHz.*
- Instant Readout of Frequency any place on the PC's Display.
- Instant change of center frequency with a simple mouse click.*
- Save Spectrum data to disk. Playback of Recorded Spectrum data from disk.
- Signal Averaging, PLUS our exclusive "VARI-COLOR" Analysis.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

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

COPYCAT-PRO

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

COPY-CAT PRO FEATURES →



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

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

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Specially wired cable for the M-7000/8000 $24.95

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TIRED OF YOUR HANDHELD SCANNER FALLING OVER?

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

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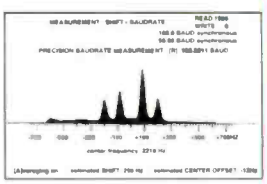
CAT-WHISKER #1 (5 to 23 inches)...$19.95
CAT-WHISKER #2 (6 to 36 inches)...$24.95
plus $2.50 S & H

HOKA CODE-3 USA Version — See You At Dayton Booth 634

"The Standard Against Which All Future Decoders Will Be Compared"

Many radio amateurs and SWLs are puzzled! Just what are all those strange signals you can hear but not identify on the Short Wave Bands? A few of them such as CW, RTTY, Packet and Amtor you'll know - but what about the many other signals?



Simulated Speed Measurement Module

There are some well known CW/RTTY Decoders but then there is CODE-3. It's up to you to make the choice, but it will be easy once you see CODE-3. CODE-3 has an exclusive auto-classification module that tells YOU what you're listening to AND automatically sets you up to start decoding. No other decoder can do this on ALL the modes listed below - and most more expensive decoders have no means of identifying ANY received signals! Why spend more money for other decoders with FEWER features? CODE-3 works on any IBM-compatible computer with MS-DOS with at least 640kb of RAM, and a CGA monitor. CODE-3 includes software, a complete audio to digital FSK converter with built-in 115V ac power supply, and a RS-232 cable, ready to use.

CODE-3 is the most sophisticated decoder available for ANY amount of money.

26 Modes included in PROFESSIONAL package Include:

- Morse ★
- RTTY/Baudot/Murray ★
- Sitor CCIR 625/476-4 ARQ - Navtex ★
- AX25 Packet ★
- Facsimile all RPM (up to 16 gray shades at 1024 x 768 pixels ★
- Autospec - Mk's I and II
- DUP-ARQ Artrac
- Twinplex
- ASCII ★
- ARQ6-90/98
- SI-ARQ/ARQ-S
- SWED-ARQ-ARQ-SWE
- ARQ-E/ARQ1000 Duplex
- ARQ-N-ARQ1000 Duplex Variant
- ARQ-E3-CCIR519 Variant
- POL-ARQ 100 Baud Duplex ARQ
- TDM242/ARQ-M2/4-242
- TDM342/ARQ-M2/4
- FEC-A FEC100A/FEC101
- FEC-S • FEC1000 Simplex
- Sports info 300 baud ASCII
- Hellschreiber-Synch/Asynch ★
- Sitor • RAW (Normal Sitor but without Synch.
- ARQ6-70
- Baudot F788N
- Pactor ★
- WEFAX ★

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- All modes in typical baud rates with possibility of changing to any desired value of speed and shift.
- User can save incoming data to disk in either ASCII or raw bit form.

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cle's cigarette lighter and insert a small portable TV, radio, or video game into the inverter. "All models deliver the initial high power needed to start difficult loads, such as TVs and motors used in power tools and appliances," according to John Pohl, Vice President, Marketing, for Cobra Electronics.

Cobra Electronics has four TURBO power inverters, each designed for specific applications:

• The Executive — Model P-2, with a suggested retail price of $79.95, is ideal for laptop computer and cell phone chargers. Cobra calls it "the world's smallest inverter for the mobile businessperson."

• The Traveler — Model P-4, with a suggested retail of $89.95, is designed for on-the-go families who need to power entertainment products such as TVs, VCRs, and video games.

• The Tradesman — Model P-6, with a suggested retail of $339.95, is for those who need to fire up power tools or small appliances from a remote location. It features fan cooling and standard remote on/off capability.

The Cobra TURBO Executive power inverter is one of a complete family of power inverters offered by Cobra. (Photo Courtesy Cobra Electronics Corp.)

• The Road Warrior — Model P-8, with a suggested retail of $559.95, allows truckers or RV owners to power anything, even microwaves and hair dryers.

Cobra Electronics Corporation is headquartered at 6500 West Cortland Street, Chicago, IL 60707. Phone 773-889-8870 or fax them at 773-794-1930.

VLF Radio! "The Sounds Of Longwave"

The lowest radio frequency to which most people will ever tune is 530 kHz on their AM radio dial. The cassette tape "VLF Radio!" goes beyond this barrier with sound samples from virtually every type of signal that can be heard on longwave and below.

This 60-minute cassette provides narration by Kevin Carey, WB2QMY, and actual recordings of ships at sea, nondirectional beacons, European broadcasters, experimental lowfers, military radio-teletype stations, WWVB, 10–14 kHz Omega and natural radio. Many of these signals are considered "endangered species" and have been preserved here for their historical value. Included with the tape are reference notes, a longwave spectrum chart, and a listener logsheet. "VLF Radio!" is deigned to serve as an introduction for the newcomer or as a reference tool for the seasoned DXer. Tapes are available for $11.95 each postpaid with U.S. funds from Kevin Carey, P.O. Box 56, West Bloomfield, NY 14585. Orders are shipped within two days by first class mail. Dealer inquiries are invited. Kevin can also be reached via e-mail at <kcarey@mdsroc.com>. ■

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Since 1989, The Recognized Leader in Computer Control

NOW SUPPORTS ICOM IC-PCR1000 (incl. bandscope)

Once you use SCANCAT with YOUR radio, you'll NEVER use your radio again WITHOUT SCANCAT!

SCANCAT supports almost ALL computer controlled radios by: AOR, DRAKE, KENWOOD, ICOM, YAESU and JRC (NRD) Plus PRO-2005/6/35/42 (with OS456/535), Lowe HF-150, and Watkins-Johnson.

SCANCAT'S WINDOWS FEATURES

- Unattended Logging of frequencies
- Scan Create Disk Files.
- Spectrum Analysis to Screen OR Printer.
- Supports PerCon & Mr. Scanner CD Roms.
- LINK up to 100 Disk files or ranges.
- Scan VHF & HF Icom's Simultaneously.
- MULTIPLE search filters for Diskfile Scanning.
- Search by CTCSS & DCS tones with OS456/535 or DC440 (ICOM only).
- INCLUDES several large shortwave and VHF/UHF databases

All the features you EXPECT from a true Windows application such as:

- UNIQUE database management system with moveable columns. Even SPLIT columns into doubles or triples for easy viewing of ALL important data on one screen.
- Exclusive 'SLIDE RULE' tuner. Click or 'skate' your mouse over our Slide-Tuner to change frequencies effortlessly! OR use our graphical tuning knob.
- VERSATILE "Functional" spectrum analysis. NOT just a "pretty face". Spectrum is held in memory for long term accumulation. Simply "mouse over" to read frequency of spectrum location. "CLICK" to immediately tune your receiver. You can even accumulate a spectrum from scanning DISKFILES of random frequencies!
- DIRECT scanning of most DBASE, FOXPRO, ACCESS, BTRIEVE files WITHOUT "importing".

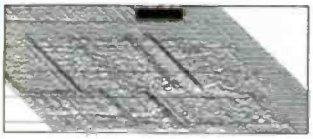
SCANCAT GOLD FOR WINDOWS.....$99.95 + S & H* UPGRADE from any version.....$29.95 + S & H*

*$5 U.S. $7.50 FOREIGN

See You At Dayton Booth 634

SCANCAT GOLD FOR WINDOWS "SE"

ADDITIONAL FEATURES



- Selective Sound Recording using PC-compatible sound card. "Point & Shoot" playback by individual hits.
- Demographic search for frequency co-ordination and 2-way Usage Analysis.
- Detailed logging to ASCII type files with DATE, TIME, Sig Str, Air Time.
- UNLIMITED file sizes with our exclusive SCANCAT filing method.
- Exclusive "MACRO" control by frequency of Dwell, Hang, Resume. Sig. Treshhold and even 6 separate programmable, audible alarms.
- Command line options for TIMED ON/OFF (Unattended) logging/searches.
- Run as many as 6 different CI-V addressable radios as "Master/Slave.

SEVERAL GRAPHICAL ANALYSIS MODES AVAILABLE

With Scancat Gold for Windows "SE," your spectrum never looked so good! Load virtually "any" database and Scancat "SE" will examine your database, plot each and every frequency, no matter what the range...and "paint" the entire analysis on your screen.

- By Signal Strength per frequency in a "histograph".
- By Signal Strength plotted in individual dots.
- By Number of hits per frequency in a "histograph".

• IF THAT ISN'T ENOUGH, try this...Multicolored, 3-D "Spatial/Landscape" (Depicted at left).

SCANCAT GOLD "SE".....$159.95 + S & H* UPGRADE from SCANCAT GOLD FOR WINDOWS.....$59.95 + S & H*

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PUT SOME ORDER IN YOUR LIFE!

If You're Not Using MAGIC, You're Only Enjoying Half The Hobby.

Magic is a super conversion utility that will read and write to over 10 database formats

- Creates databases from plain ASCII text.
- Finds single or multiple frequencies located anywhere in source files and creates perfectly aligned database files.
- Converts: SCANCAT, ASCII text, comma delimited, HTML, DBase, ScanStar, RadioManager, ScannerWear and WiNRADiO files.

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Disk Full of Frequency	15.00
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"UNI-VERSATILE" INTERFACE

- Supports ICOM/IC-R10, AR8000, YAESU and SCOUT.
- Comes with 6 FOOT cable, and adapters to fit all units within a single package (Must Specify Yaesu)
- Unlike "single radio" adapters, can be used with ANY radio supported, simply change the adapter, then "Plug and Play."
- Expandable in future with a simple add on adapter.
- No external power required. Draws power from computer.
- "Reaction Tune" scout with NO modifications to radio.

CAT-232C "UNIVERSATILE INTERFACE" $99.95 + s & h

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BY KEN REISS/PETER BERTINI

Product Spotlight

POP'COMM REVIEWS PRODUCTS OF INTEREST

Probe Turns 4.0

By Ken Reiss <armadillo1@aol.com>

DataFile of St. Louis has once again upgraded their popular Probe software for the Optoscan 456 and 535 products. As usual, the resulting product offers many enhancements for the seasoned Probe user, while maintaining the simplicity that Probe has become known for — great news if you're just getting started.

If you're new to computer-controlled scanning, Probe is probably one of the easiest software systems to configure and use with your scanner. It runs on any old DOS computer, although it also runs just fine in a window under Windows 95. With just a few minutes in the manual's "Quick Start" section and a few keypresses, you can be up and scanning. Then, as you get more comfortable and begin to read the rest of the manual, you start to uncover some very powerful settings. Probe preconfigures most of these so that you don't need to mess with them to get up and running, but at the same time, you don't get the full power of the software without understanding what it's capable of doing. It's truly a program that can grow with you.

A complete computer-control scanning setup. Many older computers are becoming available at very low cost and make for great dedicated radio-control machines. This helps keep your main computer free for writing articles!

How It Works

Probe stores files on your hard disk in "Groups." You can have up to 4,000 group files. When you're scanning, you will be scanning one, and only one, group, but having 3,999 extras preprogrammed can't hurt. In reality, I know a lot of people who only have one group programmed, which may be plenty. But it's nice to have expansion capabilities. It's also fun to exchange group files with other users. There are some available for download on the Internet that tend to be of some use to everyone. Things like Maritime, air bands, and common ham radio frequencies have been preconfigured and can be downloaded and scanned right away. For further info on these, see the PRO-2006 Web site (which is maintained by Steve

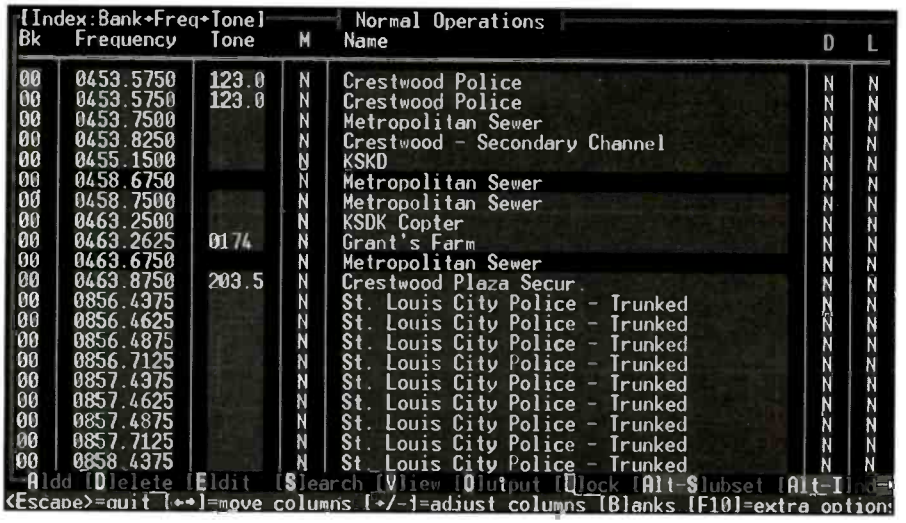
[Index:Freq+Tone] Normal Operations

Bk	Frequency	Tone	M	Name	D	L
17	0855.9625		N	Maryland Heights	N	N
43	0856.0375		N	River Boat- Downtown	N	N
17	0856.2375		N	Maryland Heights	N	N
62	0856.2625		N	St. Charles Police Trunked System	N	N
07	0856.4375		N	St. Louis City Trunked System	N	N
00	0856.4375		N	St. Louis City Police - Trunked	N	N
07	0856.4625		N	St. Louis City Trunked System	N	N
00	0856.4625		N	St. Louis City Police - Trunked	N	N
07	0856.4875		N	St. Louis City Trunked System	N	N
00	0856.4875		N	St. Louis City Police - Trunked	N	N
07	0856.7125		N	St. Louis City Trunked System	N	N
00	0856.7125		N	St. Louis City Police - Trunked	N	N
45	0856.9375		N	Bi-State Metrolink	N	N
45	0856.9625		N	Bi-State Metrolink	N	N
43	0857.0375		N	River Boat- Downtown	N	N
45	0857.2375		N	Bi-State Metrolink	N	N
62	0857.2625		N	St. Charles Police Trunked System	N	N
07	0857.4375		N	St. Louis City Trunked System	N	N
00	0857.4375		N	St. Louis City Police - Trunked	N	N
07	0857.4625		N	St. Louis City Trunked System	N	N

[A]dd [D]elete [E]dit [S]earch [V]iew [O]utput [L]ock [Alt-S]ubset [Alt-I]nd→

<Escape>=quit [↔]=move columns [+/-]=adjust columns [B]anks [F10]=extra options

Probe's user-friendly menu system helps to make the program easy to use while still holding a lot of power in reserve. Shown here are the extensive tone controls available if you wish to take advantage of the tone squelch feature. Of course, you can do a lot of things with the software and completely ignore this menu.



Here's a frequency browser after another group has been brought into this one with the copy/compare function. Note that duplicate records are highlighted, or "marked."

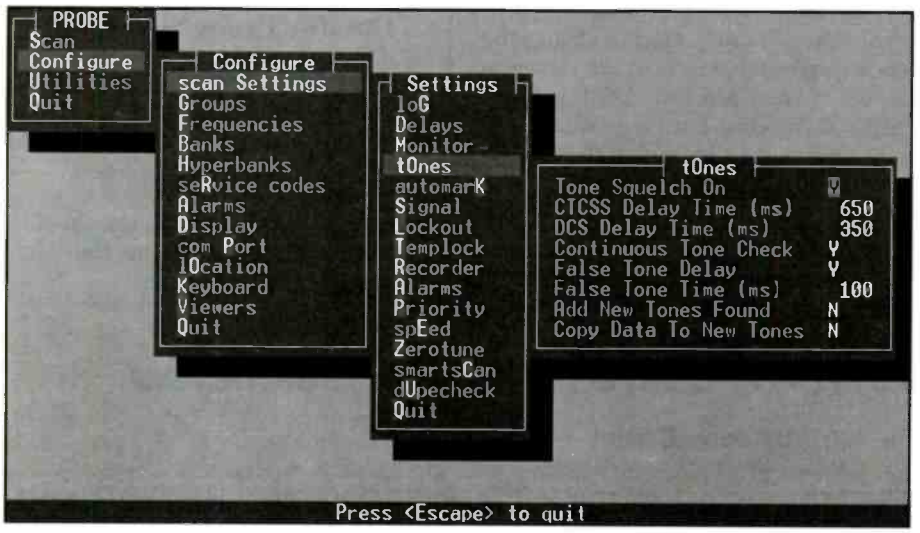
Hancock, a Probe user, not the company) at <http://home.ptd.net/~pro2006/>.

Entering Data

Once you've selected the group file that you want to work with, you're ready to begin entering data. Probe provides 99 banks in each group, and up to 1,000 frequencies per bank. If you do the math, that's up to 99,000 frequencies that you could potentially be scanning at once, and if you multiply that by the 4,000 groups that you could have stored, you shouldn't run out of capacity anytime soon.

Probe will import data from a variety of sources as well as its own format. Most of the major CD collections of FCC data are supported, including ScanerBase, Betty Bearcat, Mr. Scanner and Percon. While you can import this data as a good resource for finding what's around you, and as a starting point, you'll pretty quickly find yourself wanting to set up your own files with just the stuff you scan on a daily basis. Don't worry; it's easy to have both. Just create another group file!

Of course, good scanning sense and your time to type frequencies in will dictate that you really don't want to scan that many channels at once. The real power in having 99 banks is how you can divide your scanning interests: a few police frequencies here, a few fire frequencies there, and some other stuff scattered in various banks.



Now we've changed the display to another index, or sort order. The marked records are shown next to the duplicate entry for fast comparison. It's easy to scroll through the list and decide which to keep and which to delete. You can delete them as you go, or leave them marked for deletion at a later time.

In version 3.0, a feature called HyperBanks allowed you to attach a set of banks to a function key. By pressing that key, those banks would be loaded. One of version 4.0's cool new features is that now, in addition to switching banks on and off, HyperBanks can also switch any of about 54 settings at the same time. So you could configure one HyperBank to load police and fire freqs, and log that to a certain file. You could then configure another hyperbank to load police and ambulance frequencies, but log them to a different log file and turn on the priority function. It is truly a way to expedite a whole host of changes in a very short time. With a little preparation, you can be prepared for almost any scanning situation at the press of a button.

Improved Priority Function

Speaking of priority, Probe has added an improvement here, too. Probe's priority function was always a bit different, but once you figured out how it works, it's pretty cool, and very functional. The priority function allows you to designate a priority bank. This, of course, has to be one of the banks that you are scanning. You also designate how often you want this priority bank checked in terms of frequencies scanned. The higher the number, the less often Probe will go back and check this bank for activity.

As an example, suppose you designate bank 1 as your priority bank, and tell it to check every 50 frequencies. The program will scan everything in your other active banks, counting as it goes until 50 frequencies have been scanned. Then, it stops where it's at and goes to check the priority bank, regardless of how many frequencies you have in that bank. Once the priority bank has been checked, and assuming no activity was found, scanning resumes where it left off. When 50 more frequencies have been scanned, it checks priority again. By increasing or decreasing this number, you can dramatically affect how often the frequencies in the priority bank are being checked, and as a result, how much emphasis is on them in your scanning routine. It truly allows you to focus on key frequencies while still scanning other frequencies.

In version 4.0, there is a new "active priority" feature. Under the priority system in Probe 3.0, when the scanner was stopped on an active frequency, the priority frequencies were not being checked. In version 4.0, you can designate one "priority check" frequency that

is sampled, while another frequency is active, much like a conventional scanner does. You'll hear a slight interruption to the audio of the active frequency. This one frequency can be checked as often as you like. The setting range for this runs into the fractions of a second, so you can get quite a bit of control. It takes some experimentation to find the ideal settings for the frequencies that are important to you, but you'll be repaid with an improvement in the continuity of conversations.

Unmatched Tone Control

Probe has always offered excellent CTCSS and DCS tone squelch controls. You can use tones both to help identify who is transmitting and, in a true tone squelch mode, so only those transmissions with the appropriate tone are monitored. Its abilities in this regard are quite extraordinary. If a user with a particular tone transmits and the scanner stops on that frequency, Probe will check if it has a user with that tone in the bank. If it does, it will display that user's information on the screen. After the transmission is complete, if another user with a different tone transmits, it will display the information for that user, just like you'd expect. And you can also lock out individual tones and users if you prefer. In version 4.0, you can also tell Probe to unsquelch only if there is no tone. You can also set tone parameters in the manual tuning mode if you like.

Information Please

One of the things that has always set Probe apart and contributes greatly to the ease of use is its database features. The data worksheet is integrated right into the main program so it is always only a few keystrokes away. There are lots of neat functions available here, probably more than we can tell you about. These include free editing of any record in the database, sorting and finding data in a number of ways, and the ability to configure columns in any order you wish for both display-on-screen and printed reports. You can also copy and move banks from one group to another, or within the same group.

New in version 4.0 is a "compare" function. This handy feature allows you to compare the contents of one group file to another. The way it works at first glance is a bit confusing, but once you've used it a couple of times you'll appreciate the flexibility this new feature offers.

You access the extra options from the frequency viewer by pressing F10. Then, you select a group that you wish to copy/compare the data FROM. You can select just a single bank, or the entire database for that group, or you can opt for just the marked or unmarked records. The records are copied from that group into the currently active group, in bank 00.

Bank 00 has been around for a long time, but most Probe users probably didn't know about it. You can't scan 00, but you can use it to store information, either on a permanent or temporary basis. I'm not sure why you'd want to store stuff there permanently, but as a temporary work space, it can make life easier.

As the records are brought into bank 00, duplicates of any frequency in the current database will be marked (it's helpful to unmark any records you might have had marked, so that you'll be looking at just the results of the comparison). Marked records represent frequencies that are already in the database somewhere else. Unmarked records represent frequencies that are new. From here, you have a lot of options.

There is a command to just delete the marked records. That will leave you with only new stuff in bank 00 that you can then go back and assign to banks as appropriate. Or, you might elect to change the index (sort) so that records are shown in frequency order. Marked records will still be the duplicates, but they will appear right next to the record that they duplicate. This way, you can look through and decide on a case-by-case basis what to keep and what to delete. You can even reassign banks as you go, so that the new records you decide to keep will replace the ones that you are deleting in the correct bank. Of course, all of this requires a bit of time to sort through, but it makes central "master" databases possible, and it makes exchanging groups with friends that much easier. You'll like this feature after you use it once or twice. Or, in typical Probe style, you can just ignore that it's there and keep on scanning.

Also related to data operations is a new export function. Probe now supports the UFDBF format in export operations. Probe has always been able to import records in this format, which come from all sorts of sources including most of the popular FCC database collections. Now, files can be exported in this format also for use with other software.

Wait, There's More!

Version 4.0 also offers a custom delay function. Each frequency can now have its own delay setting if you choose. Of course, you can still have a *delay all*, and *delay flagged* settings too. However, if you assign a custom delay to a frequency, it will override the delay all and delay flagged times. This will prove a useful feature for certain applications where additional delay time is warranted.

Once again, hats off to Datafile for a superior product. It retains its ease of use for those just beginning, while continuing to offer superb control over the scanning process for those who choose to dig a little deeper. And, even with the new features, Probe will still run on virtually any DOS computer, making a dedicated system both desirable and affordable.

Datafile Probe Software

Probe Version 4.0, $129.95 plus s/h
Contact: Datafile, Inc.,
P.O. Box 20111, St. Louis, MO 63123
E-mail at <datafiles@aol.com>.

Owners of previous versions should contact DataFile directly to find out about special upgrade offers.

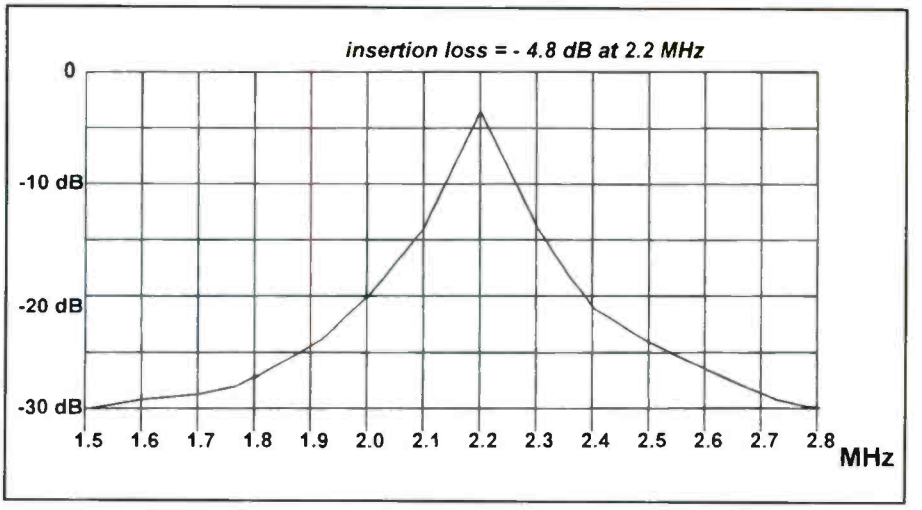
MFJ-1046 And MFJ-1048 Passive Receiver Preselectors

By Peter Bertini

There are many receiver accessories available to enhance your shortwave listening: active antennas, audio filters, and better sounding external speakers are common in SWL shacks. We all like gadgets and gizmos, but, how about a good receiver preselector? MFJ's recently announced preselectors caught our attention in some recent *Pop'Comm* ads, so we decided to learn a bit more about the MFJ-1046 and MFJ-1048.

Both preselectors cover from 1.6 to 33 MHz in six bandswitched, overlapping tuning ranges, and both models share the following specifications: The preselector is used between your receiver and antenna to provide reduction of strong out-of-band signals. This is a "passive" device.

The MFJ-1046 and MFJ-1048 preselectors. Either unit is ideal for use with an SWL receiver, but the MFJ-1048 also incorporates RF sensing for automatic by-passing when used with a transceiver.



The MFJ-1046 preselector is set to 2.2 MHz. Note the excellent rejection a few hundred kHz off the peak.

It does not amplify signals, or require a power source to operate as a preselector.

The MFJ-1048 does require a source of 12 volts, which is used for the automatic bypass relays. The '1048 model is for use after ham transceivers with a maximum rating of 200 watts. The '1048 "senses" when you are transmitting and automatically switches to the bypass mode. Loss of 12 volts causes to unit to "failsafe" in the bypass mode.

Bands covered are 1.6 to 2.8 MHz, 2.4 to 4.3 MHz, 4.0 to 7.0 MHz, 6.4 to 11.5 MHz, 10.5 to 19 MHz, and 18 to 33 MHz. A smooth 7:1 vernier reduction tuning drive is used. The unit is handsomely housed in a black 7 1/2 x 2 1/2 x 3 1/4 inch cabinet with stylish white silk-screened lettering and dial scales. The cabinet is well-shielded aluminum, not plastic. Besides the bandswitch and tuning knob, there is a push-button bypass switch on the front panel. The RF connectors are SO-239s — not cheap RCA style jacks.

Why You Need One

Well, I could go on and on about this interesting product, but first let's take a look at why you might *need* an MFJ-1046 in your listening post. Unless you're a "receiver techie," you have probably wondered about some of those technical receiver specs tossed about without explanation. Heck, those MFJ ads for the '1046 read like patent medicine claims. But will it do what it promises? And, what exactly is it promising to do?

First, no preselector made will improve the dynamic range (strong signal handling ability) of your radio. This must be "engineered" in the receiver frontend — no outboard accessory will improve it. But a preselector will greatly reduce or eliminate those strong out-of-band signals that can cause problems. It doesn't make your frontend "stronger," but instead reduces the levels of unwanted signals, so they won't overload the set's frontend mixer.

Receiver Weaknesses

Several months ago I reviewed the Lowe SRX100 shortwave receiver (an excellent value). But, like many receivers in its price class ($200 to $400), the SRX100 receiver frontend is "wide-open" across the spectrum from 100 kHz to 30 MHz. While the SRX100 has good RF handling properties, the lack of preselection can cause problems. Imagine such a receiver hooked to a longwire antenna under good band conditions, and the vast number of very strong signals being delivered to the antenna jack. These radios are especially prone to what is known as "Second-Order Intermodulation" problems.

What this means, in plain language, is that two very strong stations may "mix" together in your radio and produce new signals on entirely different frequencies! Suppose you have a strong AM station down the street running on 1080 kHz (1.08 MHz), it's early evening, and those 41-meter broadcasters are really booming in! Don't be surprised to find some phantom signals appearing in the 49- and 31-meter bands! Your local 50-kW broadcaster on 1080 kHz and a strong SW broadcaster on 7.330 MHz can mix directly together in your receiver frontend to produce phantom signals at 8410 and 6250 kHz! The MFJ-1046 virtually eliminates any second-order IMD problems.

In-Band Problems

Higher class receivers, such as the JRC-345, use several frontend-bandpass filters that are automatically selected across the

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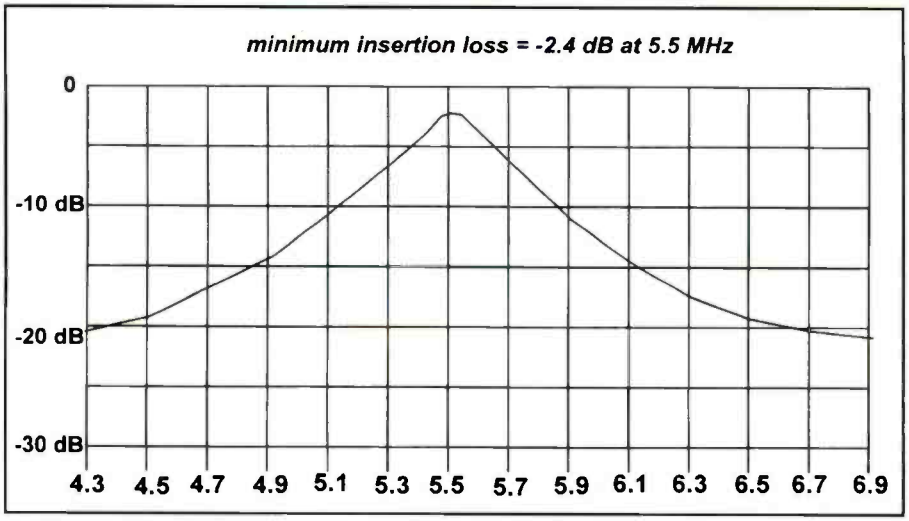


The MFJ-1046 is tuned to 5.5 MHz. Again, the off-frequency rejection is good. The MFJ-1048 and MFJ-1046 performed identically.

tuning range of the receiver. These filters can eliminate second-order IMD problems, but the radios are still prone to third-order IMD when overloaded by strong in-band signals.

To make this clearer, let's imagine a couple of very strong 49-meter signals; one at 5.90 MHz and the other at 6.10 MHz overloading your receiver mixer. You're trying to hear a weak signal on 5.7 MHz. Using the third-order formula (2A plus/minus B = X) shows that one of the undesired third-order products falls on 5.70 MHz. You have a problem. Don't let the math scare you, this is simple algebra! (2 x 5.9 MHz) - 6.1 MHz = 5.7 MHz.

Now, let's put the MFJ-1046 (or, the '1048) in line, and tune it to 5.7 MHz. Chances are the unwanted third-order interference is completely gone, and that weak 5.7-MHz broadcaster is now in the clear! My bench analysis shows that with the MFJ-1046 tuned to 5.7 MHz, the 6.3-MHz signal is reduced by 14 dB and the 5.9-MHz signal by 6 dB. But wait, here's the real kicker! For each 3 dB reduction of a signal producing a third-order IMD product, the unwanted product is reduced by 9 dB! Wow! Again, the MFJ-1046 delivers the goods.

Noise, Noise, And More Noise!

Sometimes receiver overload shows as "noise" and not as phantom signals. Hundreds of very strong stations hitting on your frontend can make a band sound very "noisy" — almost like hash. The S-meter stays at S6 or S7 across the band, and you blame "atmospheric" noise as being the problem. Kickin' in a good preselector will often greatly reduce this noise if it results from overloading, allowing weak signals to be heard.

The MFJ-1046 Design

For the "techies," here's the inside scoop on this preselector's design. The circuit is simply a 200-pF air variable, with several bandswitched inductor values for each tuning range, used in a series resonant circuit. At resonance, the series resonant circuit provides a very low impedance path between the antenna and receiver. A broadband balun steps the antenna impedance down to a low value, magnifying the effect of the series resonant circuit. Another ferrite balun steps the impedance back up to 50 ohms for a good match to the receiver input.

Bench Analysis Results

I have a fairly complete electronics lab, so I made some graphs of the preselector performance. Maximum rejection (also called "stop band") runs about 30 dB up to about 40 MHz. One weakness was found. The preselector has very poor VHF rejection: signals at 100 MHz are only down several dB. Many modern up-conversion receivers have 45-MHz IFs, with VCOs running in the 45- to 75-MHz range. This places the image for these receivers between 90 and 120 MHz; it would have been a plus if the MFJ-1046 offered some added rejection over this range. A parallel .27-uH choke and 4.7-pF capacitor in series with the antenna jack would have done the job.

Other gripes are equally trivial. I would have liked the device to cover down to 530 kHz, and it would be nice to have a switch-in 10- or 20-dB attenuator on board. There's ample front panel space to add this mod if you're technically inclined.

Insertion losses varied from 4 or 5 dB on the lowest ranges, to under .8 dB on the highest. This is acceptable and is in accord with the atmospheric noise levels at those frequencies. In other words, 5 dB of loss at 2 MHz is not important since most receiver noise figures are usually several dB better than needed at these frequencies. Likewise, the .8-dB insertion at 30 MHz is also acceptable and probably as good as could be hoped for with a preselector.

On The Air

I evaluated the MFJ-1046 on several shortwave and amateur bands. Its selectivity on 160 meters is very impressive — hams plagued by broadcast station overload on this band will love the '1046. One caveat: the MFJ-1046 is a *receiver* preselector, it must never be placed in line with a transceiver or transmitter! The MFJ-1048 model will handle up to 200 watts and has an automatic bypass circuit for use on CB, HF marine, or ham sets. The controls are well placed, operation is intuitive, and the dial markings are easy to read. The tuning is silky smooth. The dial scale calibration is adequate.

Conclusion

The MFJ-1046 and 1048 are decent products and values which can improve receiver performance for those who need it. Whether you have $200, or a few thousand dollars invested in your SW receiver, overload can be a very real problem when using good efficient outside longwire or dipole antennas.

I've decided to buy my review unit. After all, if you can't hear them, you can't log them. ■

MFJ Passive Receiver Preselectors

MFJ-1046 $99.95
*MFJ-1048 $119.95
Contact: MFJ Enterprises, Inc.,
Box 494, Mississippi State, MS 39762
Phone/Fax: 601-323-6551;
Tech: 601-323-0549

*Handles up to 200 watts

The Computer Corner

BY ED GRIFFIN

RECEIVER CONTROL, SOFTWARE, AND MORE

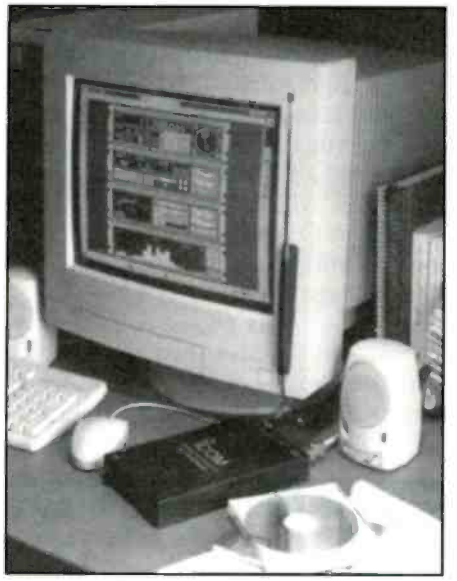
Scanning The Races, And Checking Out Opto's Microcounter

Scanning a race from home is easy if you point your browser over to <http://www.jeffgordon.com> and click on the link for listening to audio from radios at the current racetrack. I fired up my home PC before the start of the Daytona 500 in January, and, via the Web, listened to scanner audio from the racetrack while watching the television coverage. At times, I found that listening to the drivers and pit crews was more interesting than hearing what the TV announcers had to say, and there were no commercials! The servers that stream this audio have a limited number of connections, so try to connect prior to the start of a race.

ICOM's new PC-controlled radio, the IC-PCR1000 delivers wide range performance in a small and easily transported package. Check out their Web site at <http://www.icomamerica.com>. I recently began a new job which has me travelling via plane, and staying in hotels most of the time. The job requires me to carry a notebook PC with me at all times, so a computer-controlled radio was a logical way to bring my monitoring hobby along.

I've carried along my other radios, such as the AR8000 and its external interface, and PRO-2035 with OS535 board installed, but I was looking for something that would take up less room in my suitcase and offer a lot of capability. The PCR1000 certainly is easy to pack, and thus far, in about a week of usage on the road, seems to have capabilities that are most limited by the type of antenna used, and functions supported in software. I've found some good information on the PCR1000 at <http://www.mindspring.com/~jtsmith/index.htm>, and a cool software application written for the PCR1000 is located at <http://wave.home.mindspring.com/pcr1000.html>.

ScanCat software supports the PCR-1000, and it's hoped that ICOM will release the interface and command set specifications to software developers in order to promote the development of support for this radio in new and existing radio control applications.



ICOM's IC-PCR1000.

The Magic application I reviewed in February has also been updated to read and write the MCH files used by the ICOM PCR1000. Go to <http://www.scancat.com> for information on Magic and ScanCat software.

Optoelectronic's Microcounter has proved to be a very useful and covert tool for discovering frequencies. I've been using mine almost non-stop since I got it, and as a result know the frequency used by nearly every airline gate attendant, hotel staff, and handheld radio user I've come into contact with while wearing this miniature counter housed inside a pager case. It's true that the counter lacks a computer interface and has limited memories (three), but it does what it was designed to do well, and at only $99! You can find out more about it on Opto's Web site at <http://www.optoelectronics.com>. I'd also recommend this to a frequent traveler, as it's small and lightweight, and uses regular AA batteries.

It's In The Mail

Many mailing lists related to the monitoring and amateur radio hobbies are hosted by <http://www.qth.net>. To get more information and to sign up for a list, point your browser to the Web site. Once you've found a list that seems interesting to you, you can subscribe to the list. Then, via e-mail, you'll receive information sent to the list, and will also receive information on how you may post messages to the list that will be seen by all of its subscribers. If you wish to get the messages in a digest format, all grouped together instead of individual messages, then instead subscribe to the digest version of the list. Please save the information that's mailed to you when joining for use when you need to unsubscribe or make a change to your subscription. There may also be some rules for posting to the list, and you should read these as well as a couple of days worth of messages prior to posting for the first time.

"The IC-PCR1000 delivers wide range performance in a small and easily transported package."

In general, there are some rules that are common among all mailing lists. These include not TYPING IN ALL CAPITAL LETTERS as this is perceived to be shouting! Sending attachments such as files and graphics along with a posting is also not allowed on most lists. Lists typically have a topic and require postings to be related to that topic. If you begin your message by saying, "I know this isn't on topic, but . . ." then you should not be sending it to the list. An example of this would be sending a message concerning computer viruses to a list about scanners. Yes, it's true that everyone reading your message is using a computer of some sort, and the virus information may be handy to them, but it's off topic for a scanning list and should not be sent. When sending a reply to a previous message, some folks include parts of the orig-

(Continued on page 77)

The Listening Post

BY GERRY L. DEXTER

WHAT'S HAPPENING: INTERNATIONAL SHORTWAVE BROADCASTING BANDS

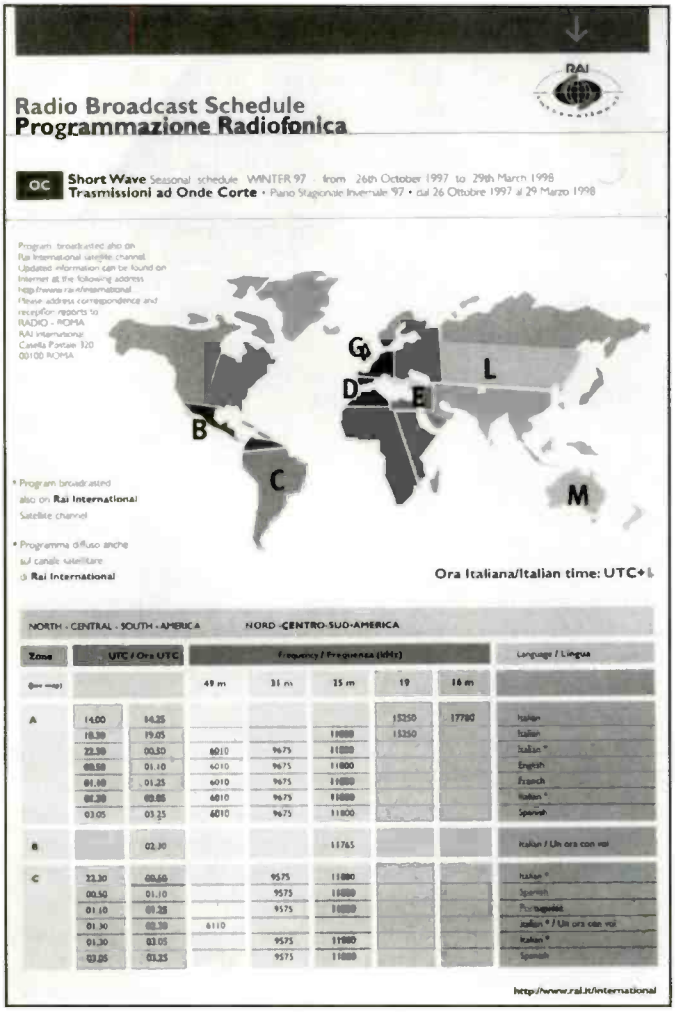
New Chilean Broadcaster On The Air, And Al Weiner Coming To Airwaves From Maine!

The new Chilean broadcaster we alerted you to a few months ago is now on the air and conducting initial tests as we write this month's column. **Voz Cristiana's** first broadcasts are taking place on **21551, variable**, and are being heard quite widely airing uptempo Christian music generally between the hours of 1400 and 2000.

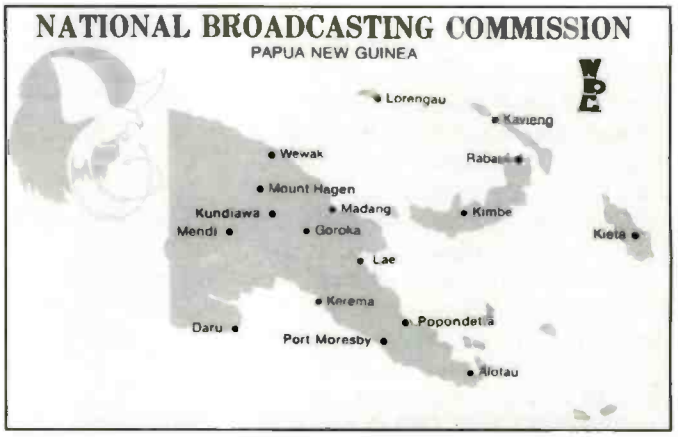
The station operates from the transmitting facilities formerly owned by La Voz de Chile, which gave up its shortwave efforts several years ago. There are eight 100-kW transmitters at this location near Santiago which will be put into play, so expect several frequencies to be used once everything is up and running (probably by now). Broadcasts in Spanish and Portuguese will be aimed at audiences throughout Central and South America and the Caribbean. The address is Casilla 490, Santiago 3, Chile.

Voz Cristiana is owned by Christian Vision, which also operates Radio Christian Voice on shortwave from Zambia (0400 to 0600 on **6065** and 1600 to 2000 on 3330). The Chilean station plans to produce most of its programs at studios in Miami and satellite-feed them to the transmitters in Chile.

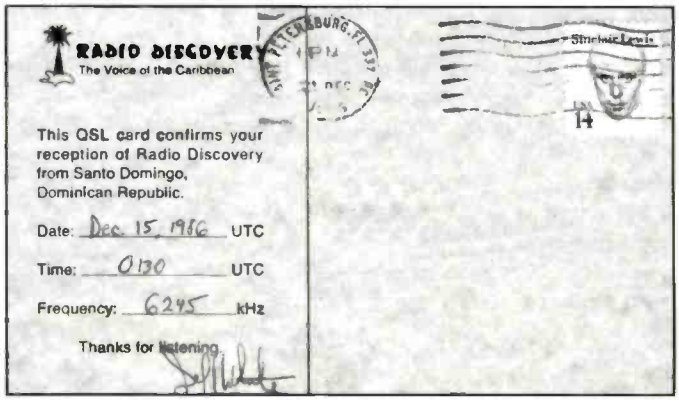
Alan Weiner, who, over a period of several years, has sought to own and operate a shortwave station (most notably with the ill-fated Radio Newyork International), has been given the go-ahead by the FCC to put **a 50-kW station on the air from his farm near Monticello, Maine**. The station will operate using the call letters WBCQ and



RAI's coverage map and North American schedule.



This standard card from NBC Papua New Guinea shows the sites of all the PNG broadcasters, several of which are currently off the air. (Ron Cole, California reports several PNG receptions in this month's listing). (Thanks: Andy Johns, TX)



Several years ago Jeff White of WRMI operated Radio Discovery in the Dominican Republic. (Thanks: Andy Johns, TX)

Q S L
Certificado de Sintonía

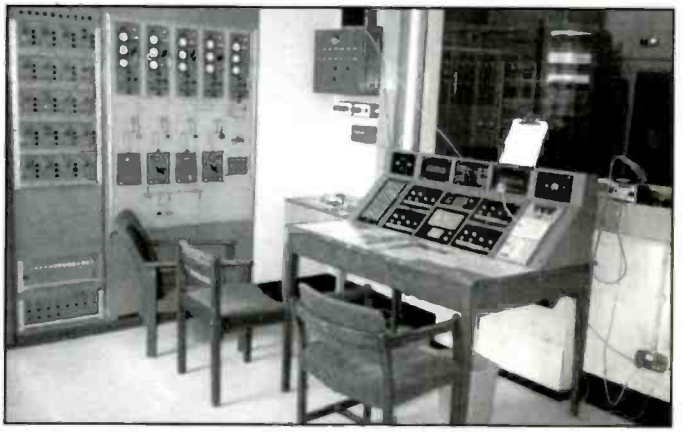
RADIO ESPERANZA, CE-609, Onda corta (SW) Banda de 49 m. en 6.090 KHz. de la ciudad de Temuco, en la República de Chile, certifica que [illegible]
HA SINTONIZADO NUESTRA EMISORA, Radio Esperanza, el día [illegible] a las [illegible] (Hora UTC) [illegible] (Hora de Chile) y que su Informe de Sintonía es correcto y se ajusta a lo transmitido el día y hora indicados.

RADIO ESPERANZA, de Temuco, Chile, le agradece su Informe de Sintonía y le saluda fraternalmente en Cristo.

Eleazar H. Jara
Firma y Sello Oficial

RADIO ESPERANZA CE-609 6.090 KHz. 49 METROS TEMUCO - CHILE

Andy Johns in Texas got this informative QSL card from Radio Esperanza, Chile, on 6090 kHz.



The control room at the Caribbean Relay, Antigua, which relays the BBC and the Voice of Germany.

intends to offer discounted time to "free broadcasters." It may be on the air as early as late summer.

Meantime, keep an ear on **11910** for tests from another new U.S. station, **WWBS in Macon, Georgia.**

It seems the **Voice of Nigeria** is making another attempt to get its 19-meter operation back into service again. Back in better days this provided regular reception in North America during our afternoons. Then it crashed. Years later, they made a sputtering attempt to revive it, but that came to nothing. Now, years after that, it is back with a rather extensive schedule, although so far we haven't marked the boundaries. Check **15120** and see if they're still there. It's in English, French, and perhaps others, as well. The address is PMB 40003 Falamo Post Office, Ikoyi, Lagos, Nigeria. Studios, however, are in the "new" capital, Abuja.

Hold your breath and hope! It just may be that **Radio Tahiti** is not breathing its last after all! Several DXers report hearing the station at renewed strength lately — and back on its nominal **15170** (rather than 15167), which indicates repairs must have been made. If the transmitter has been repaired — or maybe even replaced — that's the opposite of what we understood was to happen: that the transmitter was going to be allowed to die, and then that would be it for Tahiti on shortwave. Check 15170 during the evenings.

The **Voice of the Mediterranean**, which used to be aired over Deutsche Welle's now-defunct Malta relay, has been airing over an RAI transmitter in Italy on **9660**. The current schedule is Monday through Saturday from 0630 to 0730 in English and Arabic.

Apparently the Cambodian government station is no longer on the air. Reports say that all three of its regular channels are silent. It's impossible to say whether this one is gone for good or not. Even under the best of circumstances this one was never heard well in North America. It also appears that all shortwave operations by the government of Laos have stopped, at least for the time being. And people are also wondering about **Radio Damascus (Syria)**. It's **not being heard** on its usual frequencies: **9950, 12085, and 13610**.

You should be hearing **Radio Yugoslavia** with stronger signals before long. The station has set up an agreement for it to be relayed by China Radio International (including to the west coast of North America). In addition, it expects to hire time on a private U.S. broadcaster.

Star Radio has resumed its operations from **Liberia**, after the government there ordered it closed briefly. Broadcasts air on **3400** between 0500 and 0800 and on **5880** from 1700 to 2100 (the former is your best bet).

Remember that we always welcome your informational input. Log reports should be listed by country. Please double space between items, and tag each one with your last name and state abbreviation. Besides your loggings, we're always in need of such things as info about station address changes or QSL policies, photographs 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 share. Thanks so much for your continued interest and support!

ANGUILLA — Caribbean Becon, **11775** at 1943 with religion. (Harris, TN)

ANTIGUA — Deutsche Welle relay, **6160** at 0912 with news. (Barton, AZ) BBC relay, **5975** at 0400 with "Newsdesk." (Jeffery, NY)

ALBANIA — Radio Tirana, **7160** at 0245 with Albanian-related news. (Wood, SC) 0341 with history on liberation of Albania. (Delfratte, PA) 0247 with news. (Miller, WA)

ANGOLA — Radio Nacional de Angola, 0300 with Mideast type music, Portuguese and Afro pops, IDs heard at 0403, 0405. Weak. (Alexander, PA)

ASCENSION ISLAND — BBC relay, **11750** at 2330. (Ziegner, MA) **11835** at 1952. (Harris, TN) **21660** at 1540 with English by Radio. (Jeffery, NY)

ARGENTINA — RAE, **11710** at 2301 with sports in SS. (Miller, WA) **15820 USB**, unidentified, possibly an Argentine feeder at 2310. (Alexander, PA) (*Several local Argentine stations are relayed in SSB here at various times.—Editor*)

AUSTRALIA — Radio Australia, **6020** at 1241. Off suddenly at 1253. (Jeffery, NY) 1251 with pops. (Miller, WA) **9580** at 1100 with news. (Ziegner, MA) 1300. (Harris, TN) 0958, mixing with BBC. (Barton, AZ) 1220. And **9710** at 1135. (Delfratte, PA)

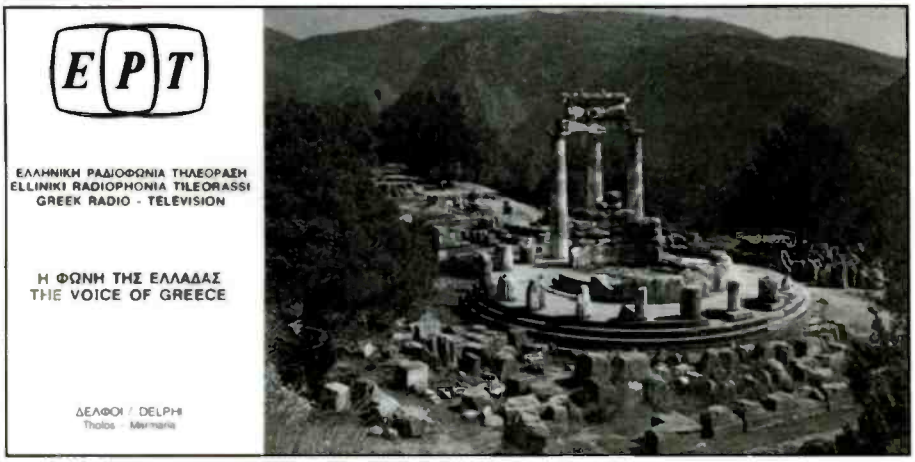
AUSTRIA — Radio Austria Int'l, **6015** (via Canada) at 0610 in GG. (Barton, AZ) **7325** at 0011, **9495** at 0150 and **13730** at 1650. (Delfratte, PA) 1727 in GG. (Foss, AK)

BELGIUM — Radio Vlaanderen Int'l, **13680** at 1318 with ID, talk on European currency. (Northrup, MO)

BOLIVIA — Radio Tropico, presumed, **4549.44** at 1015 with SS talks by man and woman, radio drama, rancheros, SS ballads. (Alexander, PA)

BOTSWANA — Voice of America relay, **9775** at 0418. Also **9885** at 0335. (Jeffery, NY) 0318. (Delfratte, PA)

BRAZIL — Radio Liberal Belem, **4774.94** at 0300 in PP with pops, announcements, ID. (Alexander, PA) Radiodifusora Roraima, Boa Vista, **4875** at 0224 with PP pops. (Miller, WA) Radio Cancao Nova, Cachoeira Paulista, **4825** at 0221 with religious programs in PP. (Miller, WA) Radio Gaucha, Porto Alegre, **11915** at 1045 in PP. (Miller, WA) Radio



Another colorful, classy card from the Voice of Greece. (Thanks: Andy Johns)

Bandeirantes, Sao Paulo, **11925** at 1644 with news in PP. (Miller, WA) Radio Nacional do Amazonia, Brasilia, **11780** at 2336 in PP with Brazilian pops. (Miller, WA) 1006 in PP. (Ziegner, MA) Radio Nacional Brasilia, **15445** at 1220 with news, ID, "we are broadcasting directly from Brasilia." (Delfratte, PA) 1314. (Harris, TN)

BULGARIA — Radio Bulgaria, **7375** at 0525. (Moser, IL) 0210 with ID. (Delfratte, PA) **7530** at 2236. (Wood, SC)

CANADA — Radio Canada Int'l, **11855** at 1450 with "This Morning." (Jeffery, NY) **11935** at 1435. (Northrup, MO) **11945** at 2041. (Harris, TN) BBC via Canada on **9515** at 1530. (Jeffery, NY)

CHINA — China Radio Int'l, **9690** via Spain at 0350 with story and CC language lesson. (Delfratte, PA) **11965** at 1430, **12055** at 1325, **12065** at 1320 all in CC or similar. (Northrup, MO) Radio France Int'l, via China, **11600** at 1210 to Asia. (Silvi, OH)

COLOMBIA — Caracol Colombia, **5077** in SS at 0500. (Miller, WA)

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

COSTA RICA — Adventist World Radio, **6150** at 1215 with ID, listener letters. **9725** at 1228 with religious program.(Delfratte, PA) RFPI, **7385** at 0432. (Delfratte, PA) Faro del Caribe, **5055** at 1237 in SS. (Miller, WA)

CUBA — Radio Havana Cuba, **6000** at 0328 with IS, ID, news and features. **9820** at 0339 with DX program, **9830 SSB** at 0600 with ID, news. (Jeffery, NY) **9820** at 0144 with DX show. (Delfratte, PA) 0132. (Wilden, IN)

CYPRUS — Cyprus Broadcasting Corporation (tentative), **6180 USB** at 2215 in Greek for the Cypriot community in the UK. Closed at 2245. (Schwartz, WI) (*weekends only, uses BBC relay facility.—Editor*) BBC relay, **9760** at 2215 in Greek. (Ziegner, MA) **11845** at 1712 in RR. (Foss, AK)

CZECHOSLAVAKIA — Radio Prague, **6200** at 0127 with letters program. **9505** at 1130 with news. (Delfratte, PA)

DENMARK — Radio Denmark, **9590** at 1732. **9965** at 1930 to 1955. (Ziegner, MA) **13800** at 1330 with ID. (Delfratte, PA) (*All in Danish, all relayed via Radio Norway.—Editor*)

ECUADOR — HCJB, **9745** at 0000. (Jeffery, NY) **11615** at 2345. (Miller, WA) **12015** at 1924 with DX Party Line. (Wood, SC) Radio Quito, **4919** at 0543 in SS. (Miller, WA) La Voz del Upano, Macas, **4870** at 0010 to 0136 close. Irregular. Alternating man/woman talks, brief breaks with Ecuadorian music. (Alexander, PA)

EGYPT — Radio Cairo, **9850** at 2008 in AA with drama or play. (Moser, IL) **12050** at 1657 in AA with singing, chimes at 1659 and news in AA. (Foss, AK)

ENGLAND — BBC, **6175** via VOA-Delano, 0701 with news. (Jeffery, NY) **9515** (via Canada) at 1600. (Moser, IL) 1826. (Miller, WA) **12095** at 1642 with soccer. (Foss, AK) **17830** at 2004. (Wilden, IN)

FINLAND — Radio Finland, **11785** at 1504 in Finnish. (Moser, IL) 1547. Also **11900** at 1651. (Miller, WA)

FRANCE — Radio France Int'l, **7280** in FF at 0723. (Barton, AZ) **11705** at 1714. (Foss, AK)

FRENCH GUIANA — China Radio Int'l relay, **9730** at 0456. (Delfratte, PA) 0430. (Jeffery, NY) Radio Japan relay, **11895** at 0521. Off at 0530. (Jeffery, NY) Swiss Radio Int'l relay, **9905** at 0402; 0450. (Jeffery, NY; Barton, AZ) **11670** at 2346 in FF. (Miller, WA)

GABON — Africa Number One, **9580** at 2057 in FF. (Miller, WA) Radio France Int'l relay, **15540** at 1225. (Delfratte, PA)

GERMANY — Deutsche Welle, **9535** at 0303. (Wilden, IN) **9615** at 2130. (Wallesen, IL) **11785** at 0043 in GG. (Miller, WA) Overcomer Ministry (Brother Stair) via Germany, **5880** at 0445. (Paszkiewicz, WI)

GHANA — Ghana Broadcasting Corp., **3366** at 0535 with choir. **Parallel 4915**. (Paszkiewicz, WI)

GREECE — Voice of Greece, **9425** in GG at 1736 with guitar. (Foss, AK) **15485** at 2057. (Miller, WA) 15630 at 1230 in GG. (Delfratte, PA) **15635V** at 1200 to 1350 in Greek plus an EE news segment. (Ziegner, MA) **17705** at 1943 in Greek. (Moser, IL)

GUAM — KSDA/Adventist World Radio, **11775** heard at 2315 with religious discussion. QRM from Radio Taipei Int'l via WYFR. (Delfratte, PA)

GUATEMALA — Radio Buenas Nuevas, San Sebastian, **4800** at 0130 to 0330 in SS with a variety of mostly religious music, many IDs. Off about 0330. (Silvi, OH) 1305 in SS. (Miller, WA) 1056 in SS with "om-pah" accordion music. (Ziegner, MA) Radio Tezulutlan, Coban, **4835** with children singing at 1215. (Barton, AZ) 1323. (Miller, WA) Radio K'ekchi, San Cristobal, 1322 with personal messages in SS. (Miller, WA) Radio Mam, Cabrican, **4825**, 1325 in SS. (Miller, WA) Radio Cultural, Guatemala City, **3300** at 0342 in EE. (Miller, WA) La Voz de Nahuala, Nahuala, **3360** at 1158 with SS religion. (Miller, WA) Radio Coatan, San Sebastian, **4780** at 1240 with SS religion. (Miller, WA)

GUYANA — Voice of Guyana, **5949.4** at 0005. Back after several weeks. EE music program, obituaries at 0032. Weak and then covered by Okeechobee/WYFR's 0100 sign on. (Alexander, PA)

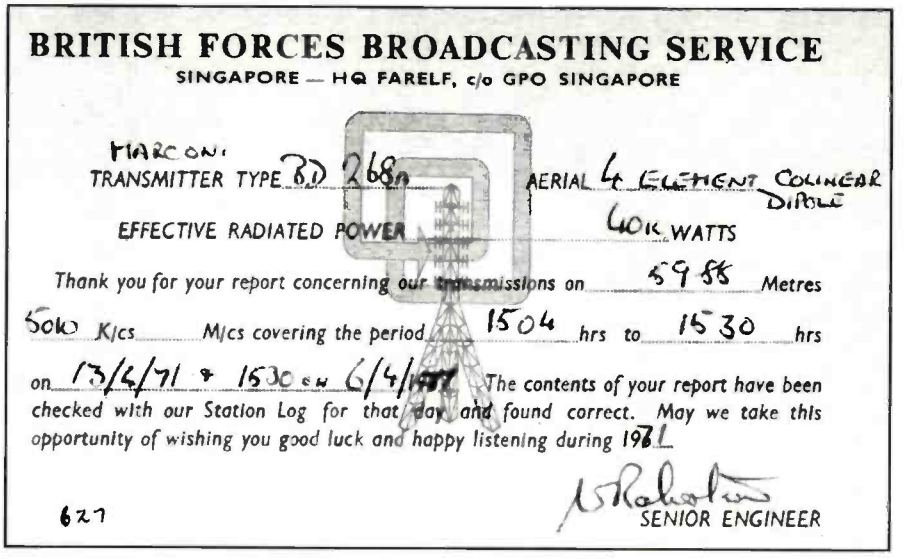
HAWAII — KWHR, **17510** at 2348 with revival music. (Barton, AZ)

HONDURAS — Radio MI/HRMX, **5890** at 0035 to past 0430 with SS religious programming. Reactivated. (Alexander, PA) La Voz Evangelica, **4820** at 0507 in SS. (Miller, WA) Radio Internacional, San Pedro Sula with SS pops at 0228. (Miller, WA)

HUNGARY — Radio Budapest, **9840** at 0215 with talks. (Delfratte, PA)

INDIA — All India Radio, **4860** at 0028 with sub-continental music, time pips at 0030. (Alexander, PA) **7250** at 0130 with ID, frequency/time info. (Schwartz, WI) **11620** at 0200 with film music, headlines in unidentified language. (Paszkiewicz, WI) 1700 in EE. (Miller, WA) AIR Thirvananthapuram, **5010** at 0059 with Hindu music. (Miller, WA) 0019 sign on with IS, sub-continental music. (Alexander, PA) AIR, Chennai, **4920** at 1522 with Hindu music. (Miller, WA) AIR, Hyderabad, **4800** at 1538 with EE news. (Miller, WA) AIR, Kuresong, **4895** at 0110

with sub-continental music. (Alexander, PA)
INDONESIA — Radio Republik Indonesia, Ujung Pandang, **4753** in II at 1529. (Miller, WA) RRI Jakarta, **15150** at 0059 with news in II. (Miller, WA)
IRAN — VOIRI, **9685** at 0057 to 0107 fade. EE news and comment. (Ziegner, MA)
IRAQ — Republic of Iraq Radio, **11785** at 0218 in AA. (Miller, WA)
IRELAND — West Coast Radio Ireland (via Germany) **5905** from 0100–0200. (Wood, SC) (*This is aired Thursday only and continues to be a financially shaky proposition.—Editor*)
ISRAEL — Kol Israel, **7495** at 0001 in Hebrew. (Schwartz, WI) **9435** at 1732 in HH. (Foss, AK) **15615** at 1414 in HH. (Moser, IL)
ITALY — Italian Radio Relay Service (IRRS), **3985** at 0630 in suppressed carrier USB. "The World In Review" from UN Radio. Also **7120 (new)** at 0845 in suppressed carrier USB. Ex-7125. Into EE at 0900. Mostly continuous light U.S. pops. (Alexander, PA) RAI, **11905** at 1630 in GG. (Miller, WA)
JAPAN — NHK Radio Japan, **7240** at 1556. (Miller, WA) Radio Tampa, **3925** at 1452 and **9595** in JJ at 1350. (Barton, AZ)
KIRIBATI — Radio Kiribati, **9810** at 0551 in unidentified language. (Miller, WA)
KUWAIT — Radio Kuwait, **9855** at 2320 in AA and ID. (Delfratte, PA) **11675** at 0200 in AA. (Miller, WA)
LESOTHO — Radio Lesotho, **4800** heard at 0237 sign on but severe QRM from Buenas Nuevas in Guatemala until they go off at 0330. (Silvi, OH)
LIBYA — Radio Jamahiriya, **15435** at 1700 in AA. (Ziegner, MA)
MADAGASCAR — Radio Netherlands relay to East Africa, **9605** at 1939. (Harris, TN)
MALAYSIA — Radio Malaysia, Kajang, **4845** at 1550 with Tamil music. (Miller, WA)
MEXICO — Radio Mil, **6010** in SS at 1249. (Miller, WA)
MOLDOVA — Radio Moldova, **7520** at 2200 with news. (Wood, SC)
MONGOLIA — Voice of Mongolia, **12085** at 1139 in probable CC. Into EE at 1200. (Ziegner, MA)
MOROCCO — Voice of America relay, **17895** at 1603. (Delfratte, PA)
NAMIBIA — Namibian Broadcasting Corp., **3270.06,** 0220 with U.S. pops. // to **3289.92** but separate programming at 0402 check. (Alexander, PA)
NETHERLANDS — Radio Netherlands, **9605** heard at 1838. (Miller, WA) **13700** at 1423. (Moser, IL)
NEW ZEALAND — Radio New Zealand Int'l, **11905** at 0510 with cricket. (Delfratte, PA) at 0458 sign on. IS. ID, into news, special weather bulletin for the Cook Islands, easy listening music. **17675** heard at 0324 with sports. (Jeffery, NY)
NICARAGUA — Radio Miskut, **5770** at 0030 in SS with pops, sound effects, sirens. Suppressed carrier USB. Sign off time varies. (Alexander, PA)
NIGERIA — Voice of Nigeria, **7255** at 0533 with Nigerian news. (Jeffery, NY) 0617 with mailbag. (Schwartz, WI) Radio Nigeria, Kaduna, **4770** at 0438 with religious program. (Miller, WA)
NORTH KOREA — Radio Pyongyang, **6519.97** at 1125 in JJ. Parallel **6020//7580.** (Alexander, PA) **6575** at 0701 with sign on in RR. (Barton, AZ) **13760** at 0057 in SS. (Paszkiewicz, WI)
NORWAY — Radio Norway Int'l, **7520** at 0301 with news in NN. (Barton, AZ) **9965** at 1900. (Ziegner, MA)
OMAN — Radio Oman (presumed), on **11890** at 1520 in AA. Gone by 1530. (Barton, AZ)
PAKISTAN — Radio Pakistan, **11570** at 1724 in unidentified language. (Miller, WA)
PAPUA NEW GUINEA — NBC, Port



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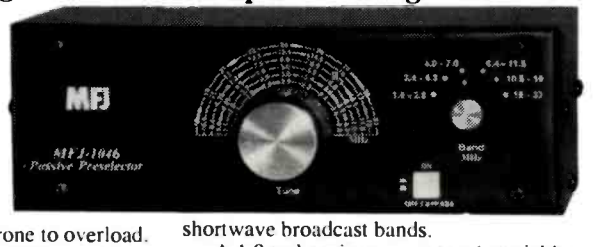

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Morseby, **4890** with news at 0800. (Cole, CA) Radio Morobe, Lae, **3220** with news at 0800. (Cole, CA) Radio Madang, Madang, **3260** with news at 0800. (Cole, CA) Radio Southern Highlands, Mendi, **3275** with news at 0800. (Cole, CA) Radio Manus, Lorengau, **3315** at 0804 with news. (Cole, CA) Radio North Solomons, Kieta, **3325** at 0800 with news. (Cole, CA) Radio East New Britain, Rabaul, **3385** at 0803 with news. (Cole, CA) Radio New Ireland, Kavieng, **3905** at 0800 with news. (Cole, CA)

PERU — Radio Cusco, Cusco, **6203.73** at 1045 in SS. (Alexander, PA) Radio Oriente, Yurimaguas, **6188.06** at 1110 in SS. Theme from "Rocky." ID. (Alexander, PA) Radio Ondas del Rio Mayo, **6811.61**, in SS to 0330 close with national anthem. (Alexander, PA) Radio San Francisco Solano, **4750.03v**, presumed, 0400 to 0436 close with announcements in SS and anthem. (Alexander, PA) Radio Frecuencia San Ignacio, **5676.99 to 5677.07v**, 0050 to 0308 close, in SS. ID 0100. Off with anthem. (Alexander, PA) Radio La Hora, Cusco, **4855.51** to 0055 close. SS announcements. (Alexander, PA) Radio Sudamerica, Cutervo, **5522.22** to 0130 sign off. SS and Peruvian folk music. Abrupt close. (Alexander, PA) Radio Atlantida, Iquitos, **4793** at 1000 in SS with ID at 1016. (Ziegner, MA) Radio Altura, Cerro de Pasco, **3340** at 0339 in SS with Peruvian music. (Miller, WA) Radio Cora, Lima, **4914** in SS to off with anthem at 0501. (Miller, WA) La Voz de la Selma, Iquitos, **4825** heard at 1252 in SS. (Miller, WA)

PHILIPPINES — Radio Philipinas, Tinang, **11730** at 1814 in Tagalog. (Miller, WA) FEBC Radio Int'l, **15450** heard at 0106. (Miller, WA)

POLAND — Polish Radio, **6095** at 2030 to 2125 close. News, commentary, light music. Parallel **7285** and 6035 both weak. Also on **new 9525** at 2115, but not at 2030 to 2100 checks so either didn't fade in until after 2100 or signed on late. (Alexander, PA)

PORTUGAL — Radio Portugal, **9570** at 0448 with "Music From Portugal." (Delfratte, PA) **15200** at 1940 in PP. (Moser, IL) 2051. (Miller, WA) Voice of Russia (Khabarovsk) **6145** at 1332 in CC. (Miller, WA) **7100** at 0300. (Wilden, IN) **7105** at 0235. (Moser, IL) **9905 (new)** at 0845. News at 0900. (Alexander, PA) **11695** at 1430 with news. (Jeffery, NY) Radio Netherlands relay, **7260** at 1023 in EE. (Barton, AZ) Deutsche Welle relay via Novosibirsk, **9480** at 1038 in GG. Classical music, ID. (Jeffery, NY)

RWANDA — Deutsche Welle relay, **11810** at 1940 to 1950 close. (Harris, TN) **15275** at 2143 in EE. (Miller, WA)

SAO TOME — VOA relay, **11975** at 2223. (Delfratte, PA) 2047. (Harris, TN)

SAUDI ARABIA — Broadcasting Service of the Kingdom of Saudi Arabia, **9555** at 1933 in AA. (Harris, TN) 2236 in AA. (Jeffery, NY) 1170 at 1548 in AA. (Miller, WA) **11965** at 1430. (Northrup, MO) **15060** monitored at 1426. (Moser, IL)

Jill Dybka (TN) got this nice card from always-friendly TIFC, Faro del Caribe, in Costa Rica.

The Pirate's Den

BY EDWARD TEACH

FOCUS ON FREE RADIO BROADCASTING

Editor's Note:

"Pirate's Den will be back next month! Our apologies to those who sent in some great pirate loggings, and to Ed Teach who we gave a couple of weeks off!"

SEYCHELLES ISLANDS — BBC relay, **6005** at 2107 and **9610** at 0405. (Jeffery, NY)

SINGAPORE — BBC relay, **9740** at 1044. (Barton, AZ) Radio Corporation of Singapore, **6159** at 1546 with request show. (Miller, WA)

SOLOMON ISLANDS — SIBC, **5020** at 0700 with news, music. (Cole, CA)

SOUTH AFRICA — Channel Africa, **9675** at 0526 with "Dateline Africa." Into unidentified language at 0530. (Jeffery, NY) 0512. (Moser, IL) **15240** at 1854 in FF. (Miller, WA) Trans World Radio, **7215** at 0352. Unidentified language; pops. (Miller, WA) BBC via Meyerton, **9515** at 1232. (Delfratte, PA)

SOUTH KOREA — Radio Korea Int'l, **9650** at 1100 in probable Korean. Then into EE. (Ziegner, MA)

SPAIN — Radio Exterior de Espana, **3210** (via Costa Rica) in SS at 0338. (Miller, WA) **6055** at 0013. (Delfratte, PA) 0523. (Moser, IL) **11715** in AA at 1700. (Ziegner, MA) **11815** via Costa Rica at 1951. (Harris, TN) **11885** at 1707 in RR. (Foss, AK)

SRI LANKA — Radio Japan relay, **11890** at 0103. (Paszkiewicz, WI) Voice of America relay, **11705** at 0205. (Paszkiewicz, WI)

SWEDEN — Radio Sweden, **7280** at 0230 with news, features. (Wood, SC) **11650** heard at 1238 to 1300 off. (Wilden, IN) 1430. (Moser, IL)

SWAZILAND — Trans World Radio, **9500** at 1823 with religious program. (Miller, WA)

SWITZERLAND — Swiss Radio Int'l, **6135** at 0407. (Delfratte, PA) **9905** at 0130. (Wilden, IN) **13635** at 1405. (Moser,IL) China Radio Int'l relay, **3985** at 2130 in FF, 2200 in EE. (Alexander, PA)

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TAIWAN — Radio Taipei Int'l, **5945** at 0240 (WYFR relay). (Wilden, IN) **9985** (via WYFR) at 2130 in GG and 2200 in EE. (Ziegner, MA) Central Broadcasting System, **6180** in CC at 1302. (Miller, WA)
TANZANIA — Radio Tanzania, **5050.06** at 2030 to 2101 close, talks, Afro-pops. Off with anthem. (Alexander, PA)
THAILAND — Radio Thailand, **7285** at 1100 in possible Thai with EE ID. Into Khmer at 1116. (Ziegner, MA) **9535** AT 2044. (Miller, WA) **9810** at 1250 encouraging the use of bicycles in Bangkok. (Barton, AZ)
TURKEY — Voice of Turkey, **6135** at 2300 with news. (Delfratte, PA)
UNITED ARAB EMIRATES — UAE Radio, Dubai, **13675** at 1411. (Moser, IL)
UZBEKISTAN — Radio Tashkent, **9715** at 1200 with some EE mixed with an unidentified language. (Ziegner, MA)
VANUATU — Radio Vanuatu, **4960** at 0700 with news. (Cole, CA)
VATICAN — Vatican Radio, **9605** at 0217 in SS with talk. (Jeffery, NY) **13765** at 1723 with news in FF. (Foss, AK)
VENEZUELA — Ecos del Torbes, San Cristobal, **4980** in SS at 0313. (Delfratte, PA) 0226. (Miller, WA) Radio Amazonas, Puerto Ayacucho, **4940** at 0230 with SS pops. (Miller, WA) Radio Tachira, San Cristobal, **4830** in SS at 0443. (Miller, WA)
YUGOSLAVIA — Radio Yugoslavia, **7115** at 0120. (Delfratte, PA) **7130** monitored at 0100. (Miller, WA)
ZANZIBAR (TANZANIA) — Radio Tanzania, Zanzibar, **11734** at 1935 in Swahili. (Miller, WA) 2030 to 2100 close (on late for Ramadan). Off with anthem. (Alexander, PA)
ZAMBIA — ZNBC Radio-1, **6265** at 0251 sign on with Fish Eagle IS, choral anthem, local music, talk in language, EE ID at 0256 and more vernacular. **Ex-4910**. Also heard 2130 to 2201 close. Radio Two noted on **6165** at 0250 sign on, weak under Radio Netherlands. (Alexander, PA) 0402 with news in unidentified language. Mentions of Zambia and Angola. (Paszkiewicz, WI)

Now, a mighty roar of approval for the folks who came through for you this time: Sheryl Paszkiewicz, Manitowoc, WI; Lee Silvi, Mentor, OH; Michael Miller, Issaquah, WA; Tricia Ziegner, Westford, MA; Brian Alexander, Mechanicsburg, PA; Joe Kenneth Wood, N. Augusta, SC; Ron Cole, San Diego, CA; Dave Jeffery, Niagara Falls, NY; Rick Barton, Phoenix, AZ; Elmer Wallesen, LaGrange Park, IL; Howard Moser, Lincolnshire, IL; Paul Harris, Columbia, TN; Marty Foss, Talkeetna, AK; Tom Delfratte, Sharpsville, PA; Mark Northrup, Gladstone, MO; Sue Wilden, Columbus, IN and Stokes Schwartz, Madison, WI. Thanks to each one of you!

Until next month, good listening! ■

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A Division of Lockheed Corporation
Burbank, California 91520

Wilson Antenna Company Inc.
3 Sunset Way Unit A-10
Green Valley Commerce Center
Henderson, Nevada 89015

Subject: Comparative Gain Testing of Citizen's Band Antennas
Ref: Rye Canyon Antenna Lab File #870529

We have completed relative gain measurements of your model 1000 antenna using the K-40 antenna as the reference. The test was conducted with the antennas mounted on a 16' ground plane with a separation of greater than 300' between the transmit and test antennas. The antennas were tuned by the standard VSWR method. The results of the test are tabulated below:

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	1.60	45
27.265	1.75	50
27.315	1.95	57
27.365	2.00	58
27.405	2.00	58

58% MORE POWER GAIN THAN THE K40

Individual test results may vary upon actual use.

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The Wilson 1000 higher gain performance is a result of new design developments that bring you the most powerful CB base loaded antenna available.

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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.

We have designed a new coil form which suspends the coil in air and still retains the rigidity needed for support. This new design eliminates 95% of the dielectric losses. We feel that this new design is so unique that we have filed a patent application on it.

In addition, we use 10 Ga. silver plated wire to reduce resistive losses to a minimum.

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The Best You Can Buy

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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The Ham Column

BY KIRK KLEINSCHMIDT, NTØZ

GETTING STARTED AS A RADIO AMATEUR

Three Radios For The Price Of One?

What's wrong, Bucko? Your wallet a little on the flat side? Your ham radio wish list running way ahead of your resources? Don't worry. At least you're not alone. After all, most hams don't have unlimited bank accounts! Besides, if you're a newcomer, the vast array of "megabuck" transceivers can be overwhelming. Don't be discouraged, though. There's a way to get on the air without breaking the bank.

A handheld FM rig will get you off to a good start, and its versatility will pay off in more than just dollars! Hams call them HTs, handie-talkies, walkie-talkies, or bricks. And countless amateurs select pocket-sized handheld VHF/UHF FM transceivers as their first rigs. Handheld transceivers save money over buying separate mobile and base units, and they work fine for FM simplex, repeater or packet operation. That's a lot of versatility for such a small package!

No currently available units offer SSB or CW, or coverage of bands below 2 meters, so you'll be limited to FM simplex, repeater voice operation, and packet. Most VHF and UHF operation is on FM, however, so there's plenty of activity in your area: In the U.S. there are more than 6,000 repeaters on 2 meters, 1,600 on 220 MHz, 4,100 on 440 MHz and 200 on 1.2 GHz. There are even FM repeaters that are linked to 10 meters, opening up the possibility of long-distance contacts.

Single-band handheld transceivers cover 6 meters, 2 meters, 220 and 440 MHz, and 1.2 GHz. Multiband rigs may include 2 meters and 220 MHz, or 2 meters and 440 MHz.

Radio To Go!

If you've attended a hamfest, you've seen plenty of people walking around with handheld rigs. They conveniently hang from your belt or slip into your shirt pocket. It's great to keep your radio nearby, whether you're in the living room, in your backyard, or out for a walk. Handheld transceivers can be used to talk to the ground crew while you're working atop a backyard radio tower, or on the roof, or to keep in touch with friends as you browse at a flea market.

Pop'Comm *reader Boris Chuistov, UU5JK, sent me a QSL card and a letter all the way from Yalta, on Ukraine's Black Sea peninsula. Boris, chief operator of his local club station, is planning to visit the United States this summer. He wants to meet friends and visit W1AW, the Hiram Percy Maxim memorial station at ARRL HQ in Newington, Connecticut.*

To get the most from portable operating, be sure that your battery's charged, and keep a spare on hand. The "rubber duckie" antennas supplied with most handheld transceivers are adequate, but you can substitute a telescoping whip for increased performance.

On The Road

A handheld rig can become a mobile unit if you have a cigarette-lighter power adapter and a magnetic-mount or trunk-lip mount antenna. Using VHF/UHF FM, you can ask for directions, call for help (for yourself or another motorist), exchange information on road conditions or enjoy a pleasant chat during your daily commute. A lonesome road through unfamiliar terrain is safer if you're able to contact other hams.

If you use a handheld rig in your car, it's worthwhile to invest in a remote speaker/mic to avoid having to hold the transceiver up to your face when you transmit. In noisy vehicles, handheld transceivers may not put out enough audio to be heard clearly. This can be remedied by connecting an extension speaker with a built-in 12-volt audio amplifier to boost the sound level.

If you use your handheld transceiver in your car, be sure *both* sides of the power cable are fused. The manufacturer may offer a power adapter with this feature, or you can make the cable yourself. Secure the radio so it doesn't fly off the console during quick maneuvers or conk you in the head if you have to stop quickly. Keep it shielded from direct sunlight, but mount it near your line of sight. Better yet, get to know your rig well enough so you don't need to look at it to make adjustments while driving. And don't leave your rig inside your car on a hot summer day.

In The Shack

Do you enjoy traffic handling? Do you like to chat with friends while cooking dinner or watching *The X-Files*? Then bring your handheld into the house, connect it to a 12-volt power supply and you're all set. You can mount a high-gain

antenna on your roof, tower, or inside the attic. Plop a mobile mag-mount antenna on top of the refrigerator or a cookie sheet. In urban areas, almost any antenna will get you on the air!

It's A Digital World

Standard AX.25 or TCP/IP packet radio operation on FM will work fine with your handheld transceiver. You can use it in the field or in your car with a laptop computer, or in your shack with a desktop PC or terminal. All you need is a source of power (a battery or a power supply) and a cable to connect your rig to your TNC. Almost every type of handheld radio has been used for packet, so it shouldn't be difficult to get information on how to wire the mic and speaker connections.

Hunting Foxes

Participating in hidden transmitter hunts without a handheld transceiver is inconceivable! You need to cruise around in a vehicle sniffing for bearings and to poke around on foot when you get close. Why switch rigs, antennas, meters, and other direction-finding gear when one transceiver will do it all?

How Much Will It Cost?

You can invest $75 to $600 for a handheld VHF/UHF FM ham transceiver. It all depends on features, whether you buy new or used, single- or multiband, and other variables. Older models cost less and are easy to find at hamfests and flea markets, but may be crystal-controlled, put out less power, and lack fancier features. It's also difficult to find battery packs and accessories for older types.

Modern units are computer-controlled with dozens of features, put out more power than mobile rigs of a decade ago, and may include more than one band. These miniature FM stations can last longer than it takes you to learn how to use all of their buttons and knobs!

The best strategy in selecting a rig is to talk to other hams. Ask to try out their radios, browse through used-equipment classified ads, and haunt local hamfests. Sooner or later, you'll locate the perfect all-purpose handheld rig. Good luck!

Send your photos, comments, and questions to me at *Popular Communications*, 25 Newbridge Road, Hicksville, NY 11801 or via e-mail to <popularcom@aol.com>. ■

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CIRCLE 86 ON READER SERVICE CARD

ACCESS TO THE AIRWAVES

By Allan H. Weiner

As Told to Anita McCormick

Allen H. Weiner has always believed that the airwaves are free and rightfully belong to the people. The hardships that Weiner endured to bring Radio New York International and other pirate stations into being are legendary. The FCC's illegal seizure of his radio ship the *M/V Sarah* in 1987 made headlines around the world. Over the years, the FCC has targeted Weiner and done everything in its power to destroy his life. In spite of this, Weiner has persevered, and continues to work towards a future when the airwaves are open to all who choose to use them, and the world becomes a better place because of the free transmission of knowledge. 1997, 5½ x 8½, 264 pp, soft cover. **$22.90 Postpaid.**

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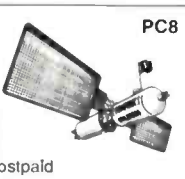

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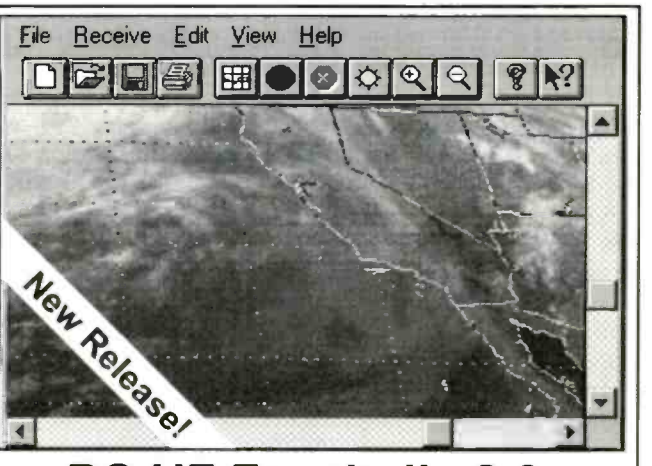

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CIRCLE 80 ON READER SERVICE CARD

The ACARS Downlink

BY BOB EVANS

YOUR LINK TO DIGITAL AIRCRAFT COMMUNICATIONS

ACARS Across The Atlantic

Welcome to another "ACARS Downlink" column. This month, we focus on transatlantic flights, requests for oceanic clearance and the North Atlantic Track system that airlines use to traverse the North Atlantic. This is followed by a short explanation of some of the Technical Element Identifier codes you will encounter.

Request For Oceanic Clearance (British Airways)

2 .G-AWNA B1 2 5332 BA0296
/PIKCLXS.-YQX/0454 M084F330

2 .G-AWNA B1 3 5350 BA0296
/PIKCLXS.-YQX/0454 M084F330

B1 = Request for Oceanic Clearance Message Label
/PIKCLXS = Address of Station to which request is made (PIK = Prestwick)
YQX = Point at which oceanic clearance is required : Gander, NFLD, Canada
/0454 = Believe this is the planned UTC time at Gander
M084 = Mach 0.84 (planned cruising speed at Gander)
F330 = planned flight level (FL330) at Gander

When the original message was not acknowledged, it was retransmitted. Note the Block Sequence Identifier is "2" for the first message and "3" for the second. BA0296 can't seem to wait more than 18 seconds for a ground uplink response.

In a previous column, we examined the use of BA's B1 Message Label - Request for Oceanic Clearance. After reviewing some of my past ACARS catches, I found several that related to North Atlantic Track Requests. I have included an explanation of the Track system and a sample Track assignment.

In all the examples below, the addressee designator is Gander (YQXXRAC). Next follows the starting location for the Track request. It may be a waypoint (DOTTY), a VOR beacon (YAY), or a geographical coordinate (50N 50W). This is followed by planned arrival time for the location expressed in UTC time. Next follows the planned speed expressed as a Mach number (M084 = Mach 0.84). Next, the planned Flight Level is given (F350 = Flight Level 350 or 35,000 feet). Some of the messages also contain a ReMarKs field.

.G-AWNF B1 3 5603 BA0296
/YQXXRAC.-N50W050/0437 M084F350

.G-AWNL B1 8 5435 BA0088
/YQXXRAC.-YAY/0132 M084F350-RMK/NBT W350
(Remarks/ Next Best Track "W" with FL 350)

.G-BNWO B1 4 1252 BA0298
/YQXXRAC.-DOTTY/0049 M080F350-RMK/REQ W NBT X NBL FL330
(Remarks/ Request (Track) "W," Next Best Track is "X," Next Best Level is FL 330)

.G-BNLV B1 6 4734 BA0268
/YQXXRAC.-YYT/1025 M085F370

.G-AWNO B1 8 0740 BA0088
/YQXXRAC.-N49W050/0217 M084F330

.G-BNWS B1 7 5834 BA0298
/YQXXRAC.-YQX/0036 M080F350-RMK/NEXT BEST W FL350
(Remarks Next Best (Track) "W" and FL 350)

.G-AWNE B1 0 1258 CA0296
/YQXXRAC.-N51W050/0435 M084F370-RMK/CYMON 8410

CYMON is a waypoint of the coast of Newfoundland, but I am unsure of the meaning of "8410." In only one of the above examples is the actual requested track stated. I would assume that when the flight plan is filed, it would contain the requested track for the flight.

North Atlantic Track System

The North Atlantic Track system consists of approximately six parallel tracks active from entry points on the coast of the UK and Ireland to exit points on the Canadian coast and vice versa. Westbound (Europe to America) flights are made mostly by day, while eastbound (America to Europe) are usually made afternoons and evenings.

The tracks are selected twice daily by computer to avoid strong headwinds when flying from Europe to North America, and to follow the best tailwinds when travelling in the opposite direction to Europe.

Eastbound tracks are usually designated with the letters A, B, C, D, E, and F. Westbound tracks are U, V, W, X, Y, and Z. The following is an example of Track X on a particular day:

Track X: COLOR (waypoint) 47N/50W 49N/40W 51N/30W 52N/20W 52N/15W CRK (Cork)

The track an aircraft requests depends on the departure time and destination of the flight. Pilots usually look for the shortest and fastest route. It is usually the most economical in terms of fuel consumption.

Airlines tend to schedule departures to similar destinations at much the same time. Since all big jet aircraft prefer to operate at flight levels within the narrow 11,000-foot band from 28,000 to 39,000 feet, congestion over the North Atlantic can easily result.

The pilot programs the INS (Inertial Navigation System) for the first nine waypoints along the route. The North Atlantic Tracks do not follow Great Circle routings, but use best time paths for wind conditions. When progressing from one position to another along the Track, however, the INS routes the aircraft along a Great Circle (the shortest distance between two points) and the compass continually changes heading as the aircraft maintains the Great Circle path. Similar track systems exist in the high Arctic for northern polar routes as well.

Although the example below is a few years old, it will give you an idea of track assignment. Tracks A through E (Europe to North America) appear first. This was a RTTY transmission from Santa Maria Air, a station that was part of the AFTN (Aeronautical Fixed Telecommunications Network). Note that multiple Flight Levels may be available for each track.

SMA007 130011
FF KJFKSWRN KJFKBAWX BGSFYNYX KMIAEALX
CYZZWNAT KZBWQZX
130010 EGGXZOZX
(NAT-1/1 TRACKS FLS 310/370 INCLUSIVE
APRIL 13/1130Z TO APRIL 13/1900Z
PART ONE OF ONE PARTS

A 55/10 56/20 56/30 56/40 55/50 OYSTR KLAMM
EAST LEVLS NIL
WEST LVLS 310 330 350 370
EUR RTS WEST 3
NAR NA200 NA204-

B ACKIL 55/20 55/30 55/40 53/50 YAY
EAST LVLS NIL
WEST LVLS 310 330 350 370
EUR RTS WEST 3
NAR NA162 NA168-

C 53/15 54/20 54/30 54/40 52/50 DOTTY
EAST LVLS NIL
WEST LVLS 310 330 350 370
EUR RTS WEST 3 VIA SNN
NAR NA156 NA154

D 52/15 53/20 53/30 53/40 51/50 SG
EAST LVLS NIL
WEST LVLS 310 330 350 370
EUR RTS WEST 3 VIA CRK
NAR NA148 NA146-

E 51/15 52/20 52/30 52/40 50/50 YQX
EAST LVLS NIL
WEST LVLS 310 330 350 370
EUR RTS WEST 3
NAR NA122 NA132-

REMARKS
1. GREENLAND CORRIDOR NOT ACTIVE
2. R99 IN EFFECT FOR EUR/CAR TRAFFIC
3. DATUM LINE TRACK ALPHA
END OF PART ONE OF ONE PARTS)

SMA275 131301
FF CYZZENAT
13300 CZQZZQZX
(NAT-1/2 TRACKS FLS 330/390 INCLUSIVE
APRIL 14/0100Z TO APR 14/0800Z

PART ONE OF ONE PART

U YHO PORGY 58/50 57/40 56/30 66/20
EAST LEVLS 330 350 370 390
WEST LVLSNIL
EUR RTS WEST NIL
NAR NA271 NA277 NA281-

V YYR SCROD 56/50 56/40 55/30 55/20 55/10 BEL
EAST LVLS 330 350 370 390
WEST LVLS NIL
EUR RTS WEST NIL
NAR NA221 NA231-

W YYT 48/50 50/40 52/30 53/20 53/15 SNN
EAST LVLS 330 359 370 390
WEST LVLS NIL
EUR RTS WEST NIL
NAR NA83 NA89-

X COLOR 47/50 49/40 51/30 52/20 52/15 CRK
EAST LVLS 330 350 370 390
WEST LVLS NIL
EUR RTS WEST NIL
NAT NA43 NA51-

Y BANCS 46/50 48/40 50/30 51/20 51/15 TIV
EAST LVLS 330 350 370 390
WEST LVLS NIL
EUR RTS WEST NIL
NAR NA23 NA31-

Z POGGO 43/60 45/50 47/40 49/30 50/20 50/15
50/08 LND
EAST LVLS 330 350 370 390
WEST LVLS NIL
EUR RTS WEST NIL
NAR NA11-

REMARKS

1. DATUM LINE TRACK WHISKEY
2. GREENLAND CORRIDOR NOT ACTIVE
3. R99 IN EFFECT FOR CAR/EUR TRAFFIC
END OF PART TWO OF TWO PARTS)

TEI Codes

Many of the two-letter codes found in ACARS messages are actually two-character TEI Codes defined by ARINC and also used by other service providers (SITA, Air Canada, etc.).

Consider the following example:

2 .N767DA 80 3 3145 DL0087
3C02 POSWX 0087/07 EDDF/KCVG .N767DA
AEP
FI DL0087/AN .N767DA/OV YSO 2226 F390
DS KCVG /FB 0391/TA MS45/WV 219062
SK BROKEN /TB SMOOTH /CZ M0.840

Assigned TEI Codes

-<SP> = Start of "free text" indicator. The TEI consists of a dash and a space character. (Refer to the end of this list of TEIs for a discussion about the incorporation of "free text" in SMT).

AC = Est. time approach clearance (four numeric characters—GMT hhmm)

AD = Aerodome of concern or arrival (three or four alpha characters)
ATA/IATA = three alpha characters
ICAO = four alpha characters

AL = Altitude or flight level (four, five, or six alphanumeric characters)
- Character "A" plus three numeric characters = altitude to nearest 100 feet
- Character "F" plus three numeric characters = flight level to nearest 100 feet
- Character "M" plus four numeric characters = altitude to nearest 10 meters
- The character "C," "D," or "L" prefixed to the character "A," "F," or "M" indicates that the aircraft is climbing, descending, or leaving (i.e., passing through the indicated altitude or flight level)

AN = Aircraft number (up to seven alphanumeric characters)

AP = Aircraft located at an airport (three/four alpha characters corresponding to airport designator codes)

AR = Arrival runway (variable alphanumeric characters)

AU = Auxiliary power unit (APU) (variable alphanumeric characters)

BF = Boarded fuel (up to six numeric characters; fuel to be expressed in hundreds of pounds, other units to be identified)

CL = Cruising level (four or five alphanumeric characters)
- Character "A" plus three numeric characters = altitude to nearest 100 feet
- Character "F" plus three numeric characters = flight level to nearest 100 feet
- Character "M" plus four numeric characters = altitude to nearest 10 meters

CP = Cargo and Payload Information (Variable length, alphanumeric sequence)

CZ = Cruising speed (six alphanumeric characters—speed in knots; five alphanumeric characters-speed stated in a MACH number) KTxxxx = knots Mx.xx = MACH number Where x is a numeric character

DA = Aerodrome of departure (three or four alpha characters)
ATA/IATA = three alpha characters ICAO = four alpha characters

DP = Dew point (two numeric characters—degrees Celsius) (Downlink only)

DS = Destination station (three or four alpha characters and, optionally, a space character and four numeric characters—aerodrome of departure and, optionally, UTC hhmm)
ATA/IATA = three alpha characters
ICAO = Four alpha characters

DT = Communication service information (variable alphanumeric characters)
ACARS message received and processed:

DSP sit ddhhmm mmss

Where:

DSP = indicates DSP processed the message
sit = the airport or city designator of the ACARS site from which the message was received (three or four alpha characters)
ddhhmm = the date/time the message was received (six numeric characters where dd = day of the month and hhmm = time UTC) mmss = message sequence number as received from the aircraft; if message is generated by the management unit, the sequence number consists of minutes and seconds

DV = Identification of aircraft being diverted from landing at original destination to another location (variable alphanumeric characters)

ED = Estimated time of departure (three or four alpha characters, space character, and four numeric characters—aerodrome of departure and UTC hhmm)
ATA/IATA = three alpha characters
ICAO = four alpha characters

EN = Endurance (four numeric characters—fuel endurance in hours and minutes, hhmm)

EO = Estimated time over (variable number of alphanumeric characters, space character, and four numeric characters—location and UTC hhmm)

FB = Fuel on board (up to six numeric characters, fuel to be expressed in hundreds of pounds; other units to be identified)

FC = Estimated further clearance (four numeric characters—UTC hhmm)

FD = Fuel over destination (up to six numeric characters; fuel to be expressed in hundreds of pounds, other units to be identified)

FI = Flight identification (up to seven alphanumeric characters)

GL = Approximate geographic location of aircraft (three/four alpha characters—airport or city designator code)

HD = Aircraft heading (three numeric characters—aircraft heading to the closest 10 degrees, true)

IC = Aircraft icing (variable alphanumeric characters)

IN = Time in (four numeric characters—UTC hhmm)

LA = Identification of officer landing aircraft (one numeric character)

LR = Identification landing category (one numeric character)

MA = Message assurance (three numeric characters and one alpha character—sequence number and function, nnn) Where nnn is a sequence number, 000-999, and a is an alpha character indicating the function of the text element:
A = User Request for delivery indication
I = User Request for delivery indication and link acknowledgement
L = DSP identification of link acknowledgement
S = DSP identification of message receipt
X = DSP response for unsupported MA function
F = DSP identification for untransmittable message
G = originator's go-ahead response
L = return link acknowledgment
O = originating message
U = user's acknowledgment

MN = Maintenance (variable alphanumeric characters)

NL = Number of landings (up to two numeric characters followed by the alpha character "F" or "T." The numeric characters indicate the number of landings, and the alpha character indicates the type of landing. "F" = full stops and "T" = touch and goes. Two sets of character sequences may be used, one indicating the number of full stops and one indicating the number of touch and goes)

NP = Next report point (variable number of alphanumeric characters)

OF = Time off (four numeric characters—UTC hhmm)

ON = Time on (four numeric characters—UTC hhmm)

OS = Other supplementary information (variable alphanumeric characters)

POSWX = Position Weather Report
AEP = Aircrew Initiated Position Report (AEP is a Stand Message Identifier (SMI) that begins an SMT (Standard Message Text).

Please note that there are other two-letter codes that have been assigned by individual airlines as well. In other words, this is not a complete list.

ARINC SPECIFICATION 620 - Page 46

APPENDIX B
SECTION B.1
TEI (Technical Element Identifier) CODES

A TEI is a two-character code that uniquely identifies a text element type contained in SMT. TEIs have been assigned for those text elements most commonly used in the air-ground operations environment.

An effort has been made to assign codes that conform to existing international and U.S. domestic standards and to use

OT = Time out (four numeric characters—UTC hhmm)

OV = Present location (variable number of alphanumeric characters, space character, four numeric characters, space character, and an alpha character with three numeric characters—location, UTC hhmm, and altitude or flight level)
- Character "A" plus three numeric characters = altitude to nearest 100 feet
- Character "F" plus three numeric characters = flight level to nearest 100 feet
- Character "M" plus four numeric characters = altitude to nearest 10 meters

PB = Number of persons on board (variable alphanumeric characters—ATA/IATA; variable numerics—ICAO)

PD = Point of departure (three alpha characters—station of origin for this flight segment)

QN = Altimeter setting (two numeric characters, period character, and two numeric characters—value to set altimeter in inches xx.xx; if millibars are used as the reference, the character "M" is suffixed to the value)

RD = Departure runway (variable alphanumeric characters)

RF = Request flight level (variable alphanumeric characters)

RI = Return in time (four numeric characters—UTC hhmm)

RM = Remarks (variable alphanumeric characters)

RO = Return on time (four numeric characters—UTC hhmm)

RT = Route information (variable alphanumeric characters)

SA = Alternative aerodrome (three character sequence(s)— ATA/IATA; four character sequence(s)— ICAO) (Where more than one alternative is given, character sequences are separated by single space characters)

SI = Special communication addressing instruction (variable alphanumeric characters)

SK = Sky conditions (variable alphanumeric characters)

SL = SELCAL code (four alpha characters)

SP = Significant point (variable alphanumeric characters)

TA = Static air temperature (two alpha characters and two numeric characters)
MSxx = temperature in degrees below zero, Celsius (-xx C)
PSxx = temperature in degrees above zero, Celsius (xx C)
Where xx is two numeric characters.

TB = Turbulence (variable alphanumeric characters)

TM = Surface air temperature (two alpha characters and two numeric characters)
MSxx = temperature in degrees below zero, Celsius (-xx C)
PSxx = temperature in degrees above zero, Celsius (xx C)
Where xx is two numeric characters.

TO = Time over (variable number of alphanumeric characters, space character, and four numeric characters—location and UTC hhmm)

TP = Transmission Path—Indicate to the DSP the preferred media to use for message delivery. Only one value should be used; valid values are: 'VHF,' 'SAT,' and 'HFD.'

VR = Runway visual range (up to three numeric characters—visual range in 30- to 60-meter increments for ranges to 800 meters; three numeric characters—visual range in 100-meter increments for ranges greater than 800 meters)

WV = Wind information (six numeric characters with the first three characters indicating wind direction to the nearest 10 degrees, true, and the second three characters indicating wind speed to the nearest knot). This text element may contain a weather-related position report if the weather observation was taken at a position other than the aircraft's present position. If a weather-related position report is included, the six numeric characters are followed by a space character and a variable number of alphanumeric characters that describe the position of observation. (The present position of the aircraft is reported by using the TEI "OV.")

WI = Weather (variable alphanumeric characters providing weather information or processing information for which there is no assigned TEI)

ZW = Zero fuel weight (variable alphanumeric characters)

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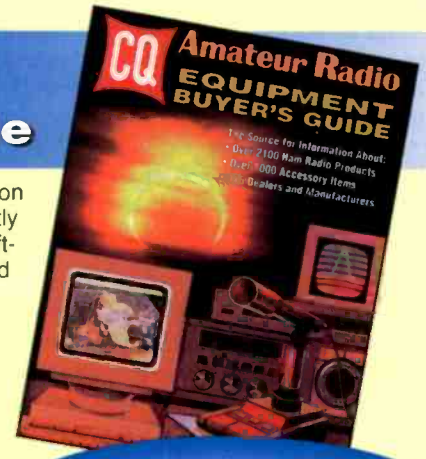

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mnemonic values that are of maximum use when human interpretation and manual processing are required by the recipient. Be sure to check out the "Assigned TEI Codes" in this column for a complete reference and understanding of the text element of these messages.

SECTION B.2 RULES FOR SMI/TEI APPLICATION (ARINC Document)

TEIs and the text elements identified by the TEIs are referred to as structured text. A text element follows its TEI and is separated from the TEI by a single space character as shown in the following example:

TA MS29

Where TA identifies the text element as the static air temperature, and the text element MS29 indicates that the static air temperature is 29 below zero, Celsius. Text that is not part of a message's structured text is "free text" and immediately follows the last line of the structured text portion of the text field. The start of the "free text" portion of SMT is indicated by a dash character ("-")-space character sequence that is used as a "free text" identifier. This identifier appears at the start of the first line of "free text." That is, it immediately follows the Carriage Return-Line Feed sequence that ends the last line of structured text.

The "free text" identifier is, in turn, followed by a space character that separates the "free text" identifier from the first character of "free text." The "free text" identifier appears only at the start of the first line of "free text." When the "free text" occupies more than one line, the "free text" identifier should not appear at the start of the second and subsequent lines of text.

The rules listed in this section apply to the use of standard message identifiers and text element identifiers in standard message text. Note: The ATA/IATA Five-bit Coded Character Set (Alphabet No. 2) uses "CARRET" and "LINE FEED" to refer to the Carriage Return and Line Feed control characters. The ATA/IATA Seven-bit Code for Information Interchange (Alphabet No. 5) uses CR and LF to refer to these characters. In this manual, CR and LF are used to refer to the Carriage Return and Line Feed control characters in both alphabets. The dash character is the FIGS "A" character in Alphabet No. 2.

1. Each message must contain an SMI. A message may not contain more than one SMI unless it is a Possible Duplicate Message (PDM) being (delivered) retransmitted by the service provider's ground/ground network. In this case, the SMI code PDM is inserted in line 3 of the message by the delivering service provider. The original SMI code would follow on line 4 and all other lines would be shifted down by one after this.

2. An SMI must be an approved three-character code and must be on a line by itself at the first part of the message text. All SMI codes presently approved for use with datalink are listed in Appendix C.

3. SMT text received by the datalink service provider from a ground user for transmission to an aircraft must include either an AN (aircraft registration mark) text element or an FI (flight identification) text element.

4. Structured text begins on the line immediately after the SMI line, and each line of structured text must be ended with a <CR><LF> sequence.

5. A TEI and its text element must be separated from each other by a single space; thus, the TEI and its text element must be on the same line. That is, they cannot be separated by a <CR><LF> sequence. This requirement also means that each line of structured text must begin with a TEI. (See, however, item 11 below.)

6. A line of text may contain several structured text elements; i.e., TEIs and their accompanying text elements. Structured text elements must be separated from each other by the solidus character (/) without any intervening spaces as shown in the following example:

FI XX110/AN N69740/DA IAH/OT 1936/FB 00000/FB 0268<CR><LF>

7. In the forming of messages, TEIs need not appear in any fixed order with the following exceptions:

a. In messages that have the flight identification or the aircraft number or both as mandatory text elements, the TEIs for these elements must appear immediately after the <CR><LF> sequence that ends the line containing the SMI.

b. When present, the following TEIs must appear at the beginning of a line of structured text. That is, these TEIs must immediately follow a <CR><LF> sequence.

c. When present, the following TEI must appear at the end of structured text; i.e., The TEI must follow the AN/FI sequence.

8. The start of "free text" is indicated by the dash character ("-") followed by a space character. The dash character must be at the beginning of the first line of text and free text should start two spaces after the dash character. The dash character is not repeated at the beginning of subsequent lines of text.

9. When present, the "free text" portion of a message follows the <CR><LF> sequence that ends the last line of structured text. The "free text" portion must be located immediately before and be terminated by the end-of-text character.

10. Structured data elements identified by TEIs may be mandatory or optional for an SMI as defined for an SMT; however, the order and composition of data items within a data element should be standardized for each SMT.

11. If the number of characters in a text element for a TEI causes the standard line length allowed by the communications environment to be exceeded and the text element to be broken by a <CR><LF> sequence, the TEI must be repeated after the <CR><LF> sequence. The repeated TEI is followed by a space character and the remainder of the text element.

12. The use of the TP TEI is optional; however, when used in conjunction with the GL TEI, the ground station's media must match that specified by the TP TEI. While it is implied that message texts identified by certain SMIs will always contain specific TEIs, no fixed SMTs have been agreed to at present.
In general, it is intended that data processing be accomplished at the TEI level, not the SMI level.

Remember, your questions on ACARS monitoring are always welcome. Until next time, Happy Landings. ■

BY BRUCE CONTI

Broadcast DXing

DX, NEWS, AND VIEWS OF AM AND FM BROADCASTING

Broadcasting Goes Sky High

An exciting new satellite digital audio broadcast service called WorldSpace is being launched with the objective of providing universal access to high quality "digital audio" broadcasts and a diverse selection of news and entertainment programming for the developing world. WorldSpace says, "Through powerful L-band (1452-1492 MHz) satellites with traveling wave tube amplifiers and onboard baseband processing, WorldSpace will be able to provide direct-to-person reception through small, portable receivers."

Bumper sticker from Boston's WRKO, 680.

The WorldSpace receiver will be capable of receiving over 100 channels, transmitted by three geosynchronous satellites, AfriStar, AsiaStar, and AmeriStar, to be launched by late 1998, and covering Africa, the Middle East, Asia, Latin America, and the Caribbean. Ghana Broadcasting, Radio Sud in Senegal, Bloomberg business radio, and the RCN network in Colombia have already signed up to join the service. In addition, a number of channels will be reserved for educational or public service programs.

The WorldSpace portable satellite receiver will initially sell for around $200, but the price is expected to drop below $100 once mass production is in full gear, making it more accessible to target audiences in developing nations. Hitachi, Matsushita, Sanyo, and JVC will produce and market the digital receivers. While the U.S. and Canada are still struggling with in-band digital broadcasting standards, L-band satellite services are favored by many nations for the introduction of digital broadcasting.

Another new satellite network is providing an international audience with access to talk radio. The Hispanic Radio Network has launched a news and talk program off of the PanAmSat 5 satellite, covering all of the Americas. Mundo 2000, a weekly Spanish-language program featuring the latest news in health care, the environment, and technology, includes a live call-in talk segment with a toll-free number through which listeners in Argentina, Bolivia, Chile, Colombia, Costa Rica, the Dominican Republic, Ecuador, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Panama, Paraguay, Peru, Puerto Rico, Uruguay, and the U.S. will be able to join in on the discussion. The program originates from National Public Radio studios in Washington, DC, and airs every Tuesday, 7 to 8 p.m., Eastern time. Mundo 2000 information and transcripts can be found at <http:www.mundo2000.com> at the Hispanic Radio Network World Wide Web site.

Radio News/Talk

More news of new satellite networks: "Beat Radio" replaces Radio Aahs children's programming over most of the former Aahs stations, including KKYD 1340 in Denver, WJDM 1660 Elizabeth, NJ, and WWTC 1280 Minneapolis. The notorious Alan Freed, a crusader for micropower FM, provides the service via satellite from Minneapolis. Beat Radio grew out of Freed's popular microbroadcasts on 97.7 in Minneapolis.

Meanwhile, Radio Disney continues to expand with KMKY "Mickey" 1310 Oakland, CA, WHIM 1450 West Warwick, RI, and WRDM 1550 Bloomfield, CT, among many stations across the country joining the network. Former Aahs affiliate KDYS 1520 is also now carrying Disney. Other stations on the "We're all ears!" network include WDWD 590 in Atlanta, KTZN 710 in Los Angeles, KKDZ 1250 in Seattle, and WPZE 1260 in Boston. By the way, those vintage KDIA call letters, formerly on 1310 and long associated with classic R&B in Oakland, are now on 1640 in Vallejo, CA, ex-KXBT.

Spanish tops the ratings news. In Los Angeles, it's Spanish language "Ten-Q" KLVE 107.5 in first place, followed by hip-hop KPWR "Power 106" and the former alternative rocker turned Spanish KSCA 101.9 FM. And Univision is celebrating as channel 23 beat all the major TV networks in south Florida, a first for the U.S. Spanish network. In Atlanta, news/talk WSB 750 and urban contemporary WVEE "V" 103.3 are in a tight battle for the number one position, with hit radio WSTR "Star" 94.1 a close third.

In the nation's capital, urban contemporary music dominates with urban hit radio WPGC-FM 95.5 number one. Urban WKYS "Kiss" 93.9 and urban adult contemporary WHUR 96.3 are close behind, placing second and third. And WBZ Newsradio 1030 continues to hold the lead in Boston, but with talk radio WRKO 680 moving into second place and pushing contemporary hit radio WXKS "Kiss" 107.9 into third.

WRKO 680 has been trying to attract

Seeking Permits to Construct New AM Stations

CA	So. Lake Tahoe	1400 kHz	
NV	Sparks	1400 kHz	

Seeking Permits to Construct New FM Stations

AK	Valdez	93.3 MHz	
AL	Selma	89.7 MHz	
CA	Garberville	89.1 MHz	
CA	Greenfield	89.9 MHz	
CA	Hayfork	89.3	
CA	Lompoc	90.5 MHz	1 kW
CA	McKinleyville	89.3 MHz	
CA	Shasta Lake City	107.1 MHz	
CO	Colona	89.7 MHz	
CO	Grand Junction	100.7 MHz	
CO	Loveland	89.7 MHz	
CO	Sterling	90.7 MHz	
Co	Vail	88.5 MHz	1.5 kW
FL	Coconut Creek	88.7 MHz	
FL	Sebring	88.3 MHz	1.7 kW
GA	Cuthbert	100.7 MHz	
GA	Montezuma	95.1 MHz	
GA	Talking Rock	100.0 MHz	
ID	McCall	106.7 MHz	
IL	Cairo	88.5 MHz	1.5 kW
IL	Crete	88.1 MHz	
IL	Effingham	89.5 MHz	
IL	Greenup	89.3 MHz	185 watts
IL	White Hall	88.3 MHz	
UN	Lebanon	91.1 MHz	300 watts
IN	Michigan City	88.5 MHz	
IN	Rochester	88.5 MHz	
KS	Emporia	90.7 MHz	
KY	Ashland	91.1 MHz	7 kW
KY	Jackson	89.3 MHz	
LA	Atlanta	106.5 MHz	
LA	Grand Isle	104.5 MHz	
MI	Burton	89.7 MHz	1 kW
MI	Gladstone	105.5 MHz	
MI	Harrisville	89.7 MHz	100 kW
MI	Mackinaw City	88.5 MHz	
MI	Rose Twp.	89.7 MHz	9 kW
MI	Traverse City	91.5 MHz	
MN	Bemidji	95.5 MHz	
MN	New Ulm	88.3 MHz	
MN	Nisswa	93.3 MHz	
MN	Pillager	95.9 MHz	
MO	La Monte	97.1 MHz	
MO	Owensville	95.3 MHz	
MO	Shell Knob	97.7 MHz	
MO	Vienna	90.9 MHz	
MS	Kosciusko	103.3 MHz	
MS	Naylor	99.9 MHz	
MT	Baker	100.5 MHz	
MT	Hamilton	98.1 MHz	
MT	Superior	107.5 MHz	
NE	Imperial	102.9 MHz	
NE	Wilber	89.9 MHz	
NJ	Port Republic	88.3 MHz	1 kW
NM	Alamogordo	107.9 MHz	
NM	Cloudcroft	97.9 MHz	
NM	Gallup	101.5 MHz	
NV	Beatty	100.3 MHz	
NV	Smith	92.3 MHz	
NY	Brooklyn	91.9 MHz	
NY	Montgomery	88.1 MHz	
OH	Newark	89.3 MHz	
OH	Urbana	89.1 MHz	
OK	Ada	88.7 MHz	31 kW
PA	York	88.7 MHz	
PA	Youngsville	88.5 MHz	
SD	Sioux Falls	90.1 MHz	
TN	Lawrenceburg	88.5 MHz	
TX	Dripping Springs	91.9 MHz	
VA	Exmore	106.1 MHz	
WA	Clarkston	88.1 MHz	450 watts
WI	Superior	88.5 MHz	
WV	Centennial	88.1 MHz	
WV	Hurricane	91.1 MHz	950 watts
WV	Hurricane	91.5 MHz	3 kW
WY	Cheyenne	88.1 MHz	
WY	Cheyenne	89.7 MHz	
WY	Glendo	100.1 MHz	
WY	Laramie	90.9 MHz	
WY	Thermopolis	98.3 MHz	
WY	Thermopolis	101.7 MHz	

Granted Permits to Construct New FM Stations

AZ	Hotevilla	89.1 MHz	
GA	Donalsonville	107.5 MHz	2.9 kW
IL	Pittsfield	91.7 MHz	
LA	Jonesville	105.1 MHz	
MN	Deer River	105.5 MHz	100 kW
MT	Plains	91.5 MHz	
TX	Brownwood	91.7 MHz	
TX	Kerrville	91.1 MHz	
TX	Markham	92.5 MHz	
TX	Plainview	90.5 MHz	
TX	Zapata	93.5 MHz	
WI	Sister Bay	89.7 MHz	

Requesting Changed AM Facilities

KLSQ	Laughlin, NV	870 kHz	Seeks chg. community, freq., power
KQYX	Joplin, MO	1560 kHz	Seeks reduced power
WKBO	Harrisburg, PA	1230 kHz	Seeks reduced power
WOFR	Washington CH, OH	1250 kHz	Seeks chg. community, power

Changed AM Facilities

WJLT	Natick, MA	1060 kHz	Increased power to 40 kW
WNFO	Ridgeland, SC	1430 kHz	Changed community, power

Requesting Changed FM Frequencies

KTAO	Taos, NM	101.5 MHz	Seeks move to 101.9 MHz
WGZO	Parris Isl., SC	92.1 MHz	Seeks chg. of freq.

New AM Call Letters Issued

KAVT	Fresno, CA
KAXW	Merced, CA
KAXY	Waco, TX
KAZJ	Seattle, WA

KAZP	Bellevue, WA
KAZT	Redding, CA
KAZW	College Station, TX
KCHT	Astoria, OR
WAWR	Salisbury, MD
WAWT	Portsmouth, VA
WAWX	Augusta, GA
WAWY	Madison, WI
WAXD	Adel, GA
WQTH	Hanover, NH

Pending AM Call Letter Changes

New	Old	
KKEN	KRHD	Duncan, OK
KNRS	KISN	Salt Lake City, UT
KXCA	KSWO	Lawton, OK
WDJA	WEAT	W. Palm Beach, FL

Changed AM Call Letters

New	Old	
KCTD	KXMG	Los Angeles, CA
KKJY	KKJC	Lake Oswego, OR
KLDS	KPSO	Falfurrias, TX
KLVP	KSKD	Tigard, OR
KNNS	KANS	Larned, KS
KTAN	KLTW	Sierra Vista, AZ
KXBR	KTCJ	Minneapolis, MN
KZMP	KPAD	Fort Worth, TX
WCKY	WAZU	Cincinnati, OH
WEZN	WZZK	Birmingham, AL
WLKW	WPNW	Pawtucket, RI
WMRE	WXVA	Charleston, WV
WOEG	WMDC	Hazelhurst, MS
WSPW	WBRW	Bridgewater, NJ

New FM Call Letters Issued

KAXR	Arkansas City, KS
KAXV	Bastrop, LA
KAZD	Montrose, CO
KAZE	Colgate, OK
KAZF	Hebronville, TX
KSBY	Burley, ID
KOLI	Electra, TX
KQWS	Omak, WA
WAWJ	Duquoin, IL
WAWM	Marco, FL
WAWN	Franklin, PA
WMSJ	Freeport, ME
WNTC	Drakesboro, KY
WWKO	Belleview, FL

Pending FM Call Letter Changes

New	Old	
KKEN-FM	KRHD-FM	Duncan, OK
KTUZ	KWCO-FM	Chickasha, OK

Changed FM Call Letters

New	Old	
KBAY	KUFX	Gilroy, CA
KBRG	KBAY	San Jose, CA
KCOO	KLYD	Shafter, CA
KDDK	KMVK	Benton, AR
KDGB	KGLS	Pratt, KS
KLVW	KKKK	Odessa, TX
KMJM-FM	WIMJ	Columbia, IL
KMRX	KQSY	Collinsville, OK
KOSY	KBKK	Spanish Fork, UT
KQAR	KDDK	Jacksonville, AR
KRMS-FM	KYLC	Osage Beach, MO
KRPH	KDGB	Dodge City, KS
KRRE	KSSJ	Shingle Springs, CA
KSNU	KRKR	Roy, UT
KSSJ	KBYA	Carson City, NV
KUFX	KBRG	Fremont, CA
KVFX	KVFM	Logan, UT
KWEG	KTWI	Warm Springs, OR
KWMM	KCZY	Osage, IA
KXXR	KEGE-FM	Minneapolis, MN
KZNR	KXXP	Lakeville MN
KZNT	KXXU	Cambridge, MN
KZNZ	KXXR	Eden Prairie, MN
KZPT	KKHG	Tucson, AZ
WBIX	WNSR	New York, NY
WBUS	WVCV	Boalsburg, PA
WBYB	WIAR	Leland, MI
WCKX	WJZA	Columbus, OH
WDXO	WMDC-FM	Hazelhurst, MS
WEZN-FM	WKXP	Bridgeport, CT
WGGI	WHMM	Benton, PA
WJOI	WAUF	Tunica, MS
WJSX	WSJL	Cape May, NJ
WKSY	WZRH	Picayune, MS
WLTF	WEDD	Englewood, FL
WMXG	WCKX	London, OH
WNJO	WAQB	Manahawkin, NJ
WRZR	WKMD	Loogootee, IN
WSAX	WMID-FM	Pleasantville, NJ
WXDG	WQRS	Detroit, MI
WYFP	WMSJ	Harpswell, ME

younger listeners to AM talk radio, and it's apparently working, as indicated by the ratings. Local personalities Darlene McCarthy, formerly of WHDH-TV 7 and WLVI TV 56 news, and Mark Parenteau, from rocker WBCN 104.1, have joined the outrageous talk host Jeff Katz in the morning drive time slot. Katz's reputation precedes him as his on-air remarks resulted in his departure amid controversy in Hartford and Sacramento. In the short time that Katz has been on WRKO, complaints have already been pouring in from community leaders.

And finally, this news item from the Big Apple. Something big is happening in New York City. That was the promotional line as modern rocker WNSR 105.1 became adult contemporary "Big 105" WBIX, with Danny Bonaduce of *The Partridge Family* fame the new host of the morning drive time show.

Loggings

For DXers Patrick Martin in Oregon and Pete Taylor in Washington, Argentina and Alabama will be more difficult catches with a new X-bander on the air in the Pacific northwest; Mark Connelly (in Massachusetts) and I (in New Hampshire) work France during transmitter-site dawn enhancement; clandestine political broadcasts related to conflicts between Algeria

The WorldSpace Satellite Radio.

and Morocco move to 1548 kHz; and Steven Hildebrand is hearing a mysterious beacon in Chicago . . . all in this month's selection of log reports.

603 FRANCE, R. Bleue, Lyon-Tramoyes, at 0601 UTC, HUGE with French male vocal version of Arlo Guthrie/Willie Nelson tune "City of New Orleans." (Connelly) R. Bleue is a national network broadcasting adult standards music in France.

603 unID, until about 1200 UTC, mixing with Korea, possibly Mongolia. There is a minority language station at Ulanhot, NM province that does run Mongolian programming. I may try a tentative taped report to them. (Martin)

675 BRUNEI, Serasa, tentative, with beautiful Malay pop music and woman in Malay, closing news at 1545 UTC; going to try a taped report. (Martin)

792 FRANCE, R. Bleue, Limoges, at 0620 UTC with piano jazz, then man in French; good. (Connelly)

945 FRANCE, R. Bleue, Toulouse, at 0653 UTC, French talk by man; fair. (Connelly) At 0610 UTC with nostalgia parallel 1206. (Conti)

1206 FRANCE, R. Bleue, Bordeaux, heard at 0644 UTC, French talk, female vocal; fair, and 2323 UTC over a weak 1205 het. (Connelly)

1242 FRANCE, R. Bleue, Marseille, at 2325 UTC, old-fashioned French male vocal. This was easy with local WBUR-1240 phase-nulled to the dirt. (Connelly)

1548 ALGERIA, National Radio of the Democratic Saharahui Arabic Republic, moved from 1544 kHz. At the beginning of 1998 has begun to be impeded by Morocco with a bubble jammer. Programming is in Arabic 0700–0800 and 1800–0000, and in Spanish 0000–0100 UTC, very irregular. (Juan Antonio Arranz via Mark Connelly)

1557 FRANCE, R. Bleue, Nice, at 0620 UTC with nostalgia parallel 945 and 1206, in heavy interference from WQEW-1560. Het also noted on 1377, but with too much interference from St. Pierre-1375 and domestics on 1380 to be readable. All signals from France lost by 0630. (Conti)

1620 KRIZ, Renton, WA, is now on the air with R&B. Very strong here, a bit stronger than KDIA-1640, 10 dB over S9 or better. Don't know if they are running 1 kW or 10 kW. There goes Alabama. Glad I heard them when I did. (Martin) Noted parallel 1420, with dual KRIZ/KZIZ IDs; I'm certainly glad I already logged Argentina and Alabama! (Taylor)

1740 unID, a fairly strong beacon, it IDs as "IS1HT," gives me a maximum signal reading of 5 on the 10-scale of my DX-398. Seems to be using FSK modulation. Maybe it's an out-of-band MEDFER? Any help as to the identity and/or location of this beacon would be greatly appreciated. (Hildebrand)

And correcting an error in the April "Broadcast DXing" column, the logging of "KNRK FM" by Bryan Clark of New Zealand via Cumbre DX should have been listed at 25950 kHz, not 1540. The logging was erroneously listed in the final edit in reference to KFXX 1540. Anyway, the KNRK 94.7 shortwave relay is supposed to be for their helicopter traffic reporter to be able to monitor the station while flying high over Portland, Oregon.

QSL Information

846 ITALY, RAI — No data QSL card, *QuiRAI* magazine, Italia '98 calendar, and reception report form, received in 51 days for a report in English and two IRCs. Address: RAI-International, Radio Roma, Centro Corrispondenza, Casella Postale 320, 00100 Roma, Italy. (Conti)

1620 KRIZ — All reception reports should be sent to Chris Bennett-GM of KRIZ-KZIZ, at 2600 South Jackson, Seattle WA 98144. (Martin)

1620 WPHG — Nice oversized QSL card. Station is 10 kW days and 1 kW nights, gospel music. Address: 805 North Main Street, Atmore AL 36502. (Martin)

1670 TIS — Midlothian, Texas, operated by the Midlothian Fire Department. Address: David Schrodt, Fire Chief, Midlothian Fire Dept., 104 West Ave. E., Midlothian, TX 76065. (Martin)

1670.5 JAPAN — Low power lighthouse weather station operating in the AM mode, with 50 watts of power; a full detailed card with a beautiful photo of an aerial view of the southern tip of Hokkaido at Ekimo. These stations broadcast repeated weather conditions in

the area around the lighthouse, at 20 to 50 watts. (Martin)

1700 WCMQ — Miami Springs, FL, "I spoke to the CE at WCMQ. He is flooded with reports from all over the world, at least 50 plus. He will be answering the reports within a month or so, as soon as he gets some QSLs printed." (Martin)

Reader Mail

Norman Temple writes, "I'm looking for a book that lists radio stations overseas that broadcast in English, together with their addresses and music formats. Would you know of such a book and where I might obtain it?"

The *World Radio TV Handbook* (*WRTH*) provides complete information, including postal and e-mail addresses, phone numbers, contacts, Web sites, and English broadcast hours for a majority of AM and FM stations around the world. The *WRTH* is available from most major bookstores and from some distributors that advertise in *Pop'Comm*, such as Universal Radio.

The Internet is another valuable resource for radio station information, from specific broadcaster Web sites to station and format listings. Try entering "radio stations" or "broadcasting" into your search engine to get started. Or use the Web site listings in the *WRTH* to get more details on formats and programs in English, or live audio from particular stations of interest. Most stations that broadcast over the Internet will provide a link for downloading free Real Audio software so you can listen to their programs.

Longtime broadcast and scanner enthusiast Rick Schleif enjoys following call letter changes and trends, and he collects radio jingles. Rick wonders what ever happened to the WAKY call letters that used to belong to the top 40 rocker on 790 in Louisville, Kentucky, during the '70s?

According to the National Radio Club's *AM Radio Log*, the WAKY call letters belong to 1540 in Greensburg, KY. And Dr. Bruce Elving's *FM Atlas* lists WAKY-FM on 102.7 in Springfield, KY. Another set of "wacky" calls, WAQY, can be found on 102.1, coincidentally in Springfield, MA.

Thanks to this month's contributors: Mark Connelly, Bob Gilbert, Steven Hildebrand, Patrick Martin, Judith Pryor (WorldSpace), Rick Schleif, Pete Taylor, and Norman Temple. 73 ■

How I Got Started

Congratulations To Jose Ferrer Of Georgia!

Jose Ferrer in the Peach State at his well-equipped monitoring post.

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

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

The person whose entry is selected will receive a one-year gift subscription (or one-year subscription extension) to *Popular Communications*. Address all entries to: "How I Got Started," *Popular Communications*, 25 Newbridge Road, Hicksville, NY 11801-2909 or e-mail your entry to <popularcom@aol.com>, letting us know if you're sending photos to accompany your story.

Our June Winner

Jose is a physical therapist in the Peach State. He says, "I got started listening to my first shortwave radio way back in '95. It was a RadioShack DX-375 which had good sensitivity on world band. I first hoped to hear the station in the Philippines, where I am from. By accident I saw *Pop'Comm* showing the times and frequencies of every country, including the Phillipine's FEBC.

I didn't rush to buy a new receiver. I earned some money and ended up buying a YB 400, RadioShack PRO-2040, PRO-51 and two handheld CBs. It wasn't in my plans to buy a scanner, but I passed by the store and heard a customer buying one. He said you can monitor what's happening in your neighborhood. The rest was history.

I'm very happy now. I listen to the radio more than I watch TV, except my wife sometimes gets irritated with the static and fading when I listen to shortwave."

Well, Jose, thanks so much for your story. You'll be receiving a free one-year subscription to *Pop'Comm* this summer. And please tell your wife that perhaps you'll invest in a pair of headphones! ■

BY RICHARD "RD" BAKER
<CommConf@concentric.net>

Communications Confidential

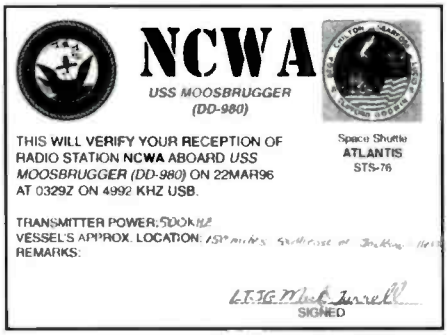
YOUR GUIDE TO SHORTWAVE "UTILITY" STATIONS

Monitoring Space Shuttle Launches

The question "can I hear the space shuttle on HF?" is a frequent flyer here. The answer these days is "no, not directly." However, what we *can* hear are some of the interesting behind-the-scenes traffic working Cape Radio in support of these launches.

But first, a little background. Cape Canaveral Air Force Station (AFS) is the home of Cape Radio. The facility is run by a private contractor who operates and maintains all the HF radios for the Eastern Test Range (ETR), which is the official designation for the facility at Cape Canaveral AFS. The facility is actually located across the Banana River from the Kennedy Space Center (KSC) and is not affiliated with NASA in any way. However ETR, better known as Cape Radio, does support, all shuttle launches and unmanned launch vehicles. They provide range safety, telemetry, radar, command destruct, communications and optical tracking for all launches from the Cape. The amount of HF radio capability at their disposal has been described as "staggering." They have eight HF transmitters that have an output of 45 kW, six transmitters with 30 kW capability, and eight transmitters of 10 kW capability. During Operation Desert Storm, Cape Radio played a key role in support of ground troops and cargo aircraft. During this time, for a period of about two months, Cape Radio provided radio phone patches to home for the deployed troops. Ascension and Antigua are a part of the ETR net and can also be heard infrequently working Cape Radio.

There are two nets on HF for every shuttle launch. The first is Safety of Range. This net is usually controlled by "DoD Cape" on a circuit set up by Cape Radio. There is usually a U.S. Navy ship tasked to "launch danger area support" on this net. Sometimes a U.S. Coast Guard cutter is also deployed to assist. The job of these ships is to ensure that no planes or ships are in the area where, if a rocket would have to be destroyed, debris may fall. They generally ID by the ship's name, such as *USS Moosbruger* (DD-980). Also on this net are KING 1, 2, and 3, the U.S. Air Force Air Rescue HC-130s out of Patrick AFB. Air Force rescue HH-60 helicopters (JOLLY callsigns) also turn up here. The KINGs and the JOLLYs are there in case there should be a open-ocean bailout by the shuttle crew.



Jim Pogue (TN) shares this PFC returned by the USS Moosbrugger *(DD-980) for a reception during a shuttle support mission.*

Recovering The Solid Rocket Boosters

The second net which is active every launch is controlled by "BRD" or the Booster Recovery Director. The two Solid Rocket Boosters (SRBs) carried aloft by the shuttle are the largest solid propellant motors ever flown and the first designed for reuse. After a shuttle is launched, the SRBs are jettisoned at two minutes, seven seconds into the flight. At six minutes and 44 seconds after liftoff, the spent SRBs, each weighing about 165,000 lb, have slowed their descent speed to about 62 mph, and splashdown takes place in a predetermined area. They are retrieved from the Atlantic Ocean by special recovery vessels and returned for refurbishment and eventual reuse on future shuttle flights. The BRD net coordinates the two SRB recovery ships: M/V *Liberty Star* (callsign WRPH) and M/V *Freedom Star* (callsign KRFB).

These two nets can make use of any of the hundred or so frequencies available to the ETR. However, early listening to ETR primary frequency 10780.0 kHz, as early as 10 or 12 hours before scheduled launch time, will reward the listener with Cape Radio giving the working frequencies for both nets as the assets check in. If you miss this, then it's a hit and miss affair. To help, **Table 1** is a list of known frequencies used by ETR/Cape Radio.

Shuttle Rebroadcasts From Goddard

One last way to catch shuttle action is by monitoring comms via the Goddard Amateur Radio Club in Greenbelt, Maryland. "WA3NAN" retransmits the air-to-ground Space Shuttle communications for all non-classified shuttle missions on the following: 3860 kHz (LSB); 7185 kHz (LSB); 14295 kHz (USB); 21395 kHz (USB); and 28650 kHz (USB), plus or minus 5 kHz for interference. Those on the Internet can check this URL for scheduled missions: <http://www.ksc.nasa.gov/shuttle/countdown/countdown.html>.

Reader Mail

Tim Tyler (MI) forwarded some information on closure of Coast Guard Air Station (CGAS) Brooklyn. The air station (AirSta) at Floyd Bennett Field and CGAS Cape May were to be closed May 18, and their operations combined at a new air station to be established at the Department of Transportation-owned Atlantic City airport and opened by early June. AirSta Atlantic City will "forward base" some helicopters with the New York Air National Guard rescue wing at Francis S. Gabreski Airport during peak boating season.

Alan Gale (UK) has rejuvenated and reinstalled his 21-year-old modified Yaesu FRG-7, adding it to the shack and leaving him free to do a bit more tuning around on other bands. Alan has heard a couple of new RCCs on 5680 recently. These were both located in Estonia. Tallin Rescue now joins Riga Rescue Radio for a daily radio check, and another station

Seen carrying a spent solid rocket booster (SRB) from the STS-87 launch is the solid rocket booster recovery ship Liberty Star. *(Photo courtesy NASA)*

IDing itself as "Kuresaare Rescue" (believed to be MRSC Kuresaare) has also been heard. Alan feels that under the GMDSS plan we could see a few more starting to arrive, since quite a few more are planned for various European countries during the next 12 months. Alan also notes that Swedish helos now seem to be using "Hotel" prefix instead of "Yankee." Looking back through his logs, he notes that "Quebec" prefixes have also been used. Last, Alan notes that many German Pollution Report aircraft use calls in the PCxxx range. Only one has been heard so far this year using PC026. Looks like they start at 01 and just issue identifiers in sequence from here throughout the rest of the year.

We have lots of first-time check-ins this month. Jack Ambush (NC) checks in with a numbers log; Jack uses a DX-394 for his listening pleasure. Also checking in for the first time is Eugene Paradis (ME), whose shack includes an ICOM R70, an AOR AR-8000, a PRO-2035, and an ICOM 701 transceiver. He's been active in shortwave since 1967. Jon Van Allen uses an ITT MacKay 3030 receiver aboard the M/V *Green Lake* which is a Ro/Ro (Roll-On/Roll-Off) Pure Car Carrier. When he's not at sea, Jon calls western Utah home. Jon made his logs between Los Angeles and Japan via the Aleutian Islands. Christian Bryant (GA) recently bought his first shortwave radio, a DX-394, and, having been a scanner listener for about six years, is interested in what can be heard on utility frequencies. Fellow Buckeye Dennis Helder (OH) is using a Drake R-8. I also want to welcome my friend "Robin Hood," checking in from somewhere in the UK. I have exchanged Russian maritime logs with that rascal Hood for several years now and I think you will enjoy seeing what he hears in Sherwood. We hope to hear from all of you again soon. And now on with the show . . .

UTE Loggings SSB/CW/DIGITAL

18.2: VTX3 w/"V" marker, DE VTX3 at 1000, ID? (JVA) (*this is the Indian Navy and is reportedly for their subs from the Vijayanarayanam xmit site, near the Tuticorin Naval Base in the southern tip of India covering the Indian Ocean — Ed.*)
60: MSF, Teddington time signal station, G at 1245 w/CW Time signals. (AB)
75: HBG, Observatoire Neuchatel, SUI at 1246 w/CW time signals. (AB)
77.5: DCF77, PTB Braunsweig, D at 1232 w/CW time signals. (AB)
84: DECCA stations in G, D, HOL, DNK, at 1250 w/pulses, from 84 to 86 kHz. (AB)
111.3: SOA211, Warsaw Meteo, POL at 1219 in RTTY 50bd Synops.(AB)
123.7: DCF42, IFAG Potsdam, D at 1229 in RTTY 300bd DGPS data. (AB)
126: DECCA stations in G, D, HOL, DNK, at 1248 w/pulses, freq 126–129 kHz. (AB)
129.1: DCF49, EFR Berlin, D at 1229 in ASCII 200bd, Ripple control. (AB)
133.4: Datatrak Vehicle Tracking System, HOL at 1125 w/data. (AB)
147.3: DDH47, Hamburg Meteo, D at 1135 in RTTY 50bd RY tape. (AB)
153: Unid YL/RR ann w/music at 2045. (JVA)
171: Unid OM/RR ann w/music monitored at 2050. (JVA)
180: Unid OM/RR heard at 2052, simulcast on 171. (JVA)
221: Beacon SYA, Shemya Island, AK at 2056. (JVA)
234: Unid YL/RR w/ann. (JVA)
243: Unid OM/RR w/ann. (JVA)
287.5: HH, DGPS station Hoek van Holland, HOL monitored at 1248 in RTTY 100bd w/DGPS data. (AB)
305: Alaska transcribed aviation weather in EE at 0545. (JVA)
314: Unid beacon "SPY" at 2110. (JVA)
347: Beacon HUD, Adak, AK at 2115. (JVA)
356: Beacon HHM, unid, at 2118. (JVA)
375: Beacon ATU, Attu, AK at 2120. (JVA)
382: Unid beacon JNR at 2122. (JVA)
390: Unid beacon HBT at 2124. (JVA)
2182: PBK, Netherlands Coast Guard, HOL at 1534 w/ann for gale warning on 3673 kHz. (AB) M/V Gulf Trader wkg USCG Mayport Group (FL) re sick crewman w/appendicitis. Mayport dispatched chopper to location & took man to Miami hospital 2345-0156. (RK) Both in USB mode.
2670: NOE, USCG Group North Bend at 0603 in USB w/MIB. (DW)
2743: ULX, Mossad, ISR at 2300 in AM, Id ULX & 5LG. (AB)
2840.7: DLVK, ZB Hiddensee (U.S. Customs launch) at 1639 w/CG Neustadt for posn rep. German CG Cuxhaven, D at 2108 w/WX reports. Both in ARQ. (AB)
3029.7: German CG Neustadt, D at 2102 in ARQ w/100bd WX reports. (AB)
3116: Khabarovsk Volmet at 1315, Irkutsk Volmet at 1325, both Russia, w/avian WX in RR in USB // 8861kHz. (TY)
3125: ROMEO 1 INDIA (USN asset) at 0540 in USB wkg 5 KILO XRAY w/link-11 coordination net, heavy QRM from NATO 75bd RTTY nearby. (*Ed.*)
3150.5: German CG vessel, D at 2103 in ARQ clg GC Neustadt, no joy (AB)
3454: Unid stn HQH w/CQ marker in Handsent CW at 1215 w/QRM from Tokyo Aero (3455 kHz). (TY)
4028: YL/SS numbers stn in progress at 0619 in AM w/5FGs, poor audio, on-going at 0644 shack shut-down. (JA) (*Cuban "Atencion" stn — Ed.*)
4077: RMP, Russian Navy Kaliningrad, RUS at 1719 w/CW WX report. (AB)
4125: VAI, Canadian CG, Vancouver, BC, CAN heard at 0500 in USB w/maritime wx bdcast. (*Ed.*)
4231: A7D, Doha Radio, w/CW marker at 1946. (HOOD)
4343: WLO in FEC at 0442 w/tfc list. (TS)
4369: Unid ship at 0225 in USB wkg Singapore Soviet Shipping by R/T tfc via WLO, Mobile Radio. (RK)
4372: EHY, Madrid Radio, Spain at 0354 in USB w/traffic list in SS. (*Ed.*)
4398: YQI, Constanta Radio, ROU at 1728 in USB w/unid vsl. (AB)
4417: UBF2, St Petersburg Radio, RUS in CW clg usual "4LT3" for tfc list, some vsls normally worked by UHP5 and UBO3. A weird freq for CW but annced as 4417/8451 at 2000. (HOOD)
4426: NMN, CAMSLANT at 0347 in USB as "USCG, Portsmouth, VA." w/high seas forecast in computerized voice. (SW)
4466.7: RFFXI, French Forces, Bangui, CAF at 0156 in ARQ-E3 192/284 w/control de voie on circuit XZI. (*Ed.*)
4469: FLORIDA CAP 207, Florida Civil Air Patrol at 1225 in USB as NCS CAP Florida Wing HF net w/ck ins. (MT)
4475: Open mic here fm 0200–0230, could faintly hear martial arts music & YL/SS in background, suddenly at 0232 OM/SS w/ shouted "who is it?" in SS, sounds of scuffle follow w/thumps! (RK) (*Maybe Fidel is serious about fuel rationing - hi! — Ed.*)
4482: Russian Man at 2210 in AM w/638 638 638 2 (repeated several times) 1723 34 & 5FG ended w/000. Language: Russian. (AB)
4485: Czech Lady, CZE at 1355 in USB w/555

Abbreviations Used For Intercepts

AM	Amplitude Modulation mode
BC	Broadcast
CW	Morse Code mode
EE	English
GG	German
ID	Identification/Ied/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)

Here's the neat shack of Eugene Paradis (KA1LWR, Maine) featuring an ICOM 70, AOR AR-8000, ICOM 701 transceiver, and a PRO-2035 scanner.

555 555 313 313 313 05 (repeated a number of times) 42 05 over over 69026 (repeated) over over 42 05 conet conet // 5027. (AB)

4505: Cuba? At 1500 SS/YL w/half of QSO, sounds like telco feed w/usual noise, maybe "6589" type net. (AWH)

4575: "V," Russian Navy Khiva at 1350 w/CW channel mkr. (TY)

4594: GK - Golf Kilo, D at 2230 in USB, YL/GG w/5FG. (AB)

4611.5: Petrojet, unk location at 0435 in ARQ sending selcall SV-SF then sends long drilling op's msg to Petrojet Cairo. (*Ed.*)

4627: WILD WOOD Net Control: Arkansas CAP unit 22 monitored at 0141 wkg WILD WOOD 44, WILD WOOD 22, WILD WOOD 5, and RED CLOUD 170: Nebraska CAP Unit 170. TEXAS CAP 4: Texas CAP unit 4 0024 USB wkg various Texas CAP units. Both in USB. (DW)

4663: Tashkent Volmet, Uzbekistan, w/avian WX in EE in USB at 1310. (TY)

4665: YL/EE, MIW2 Mossad bcst in USB at 2215. (TY)

4724: GROWLER wkg RINGBACK w/ ANDVT comms at 0140 in USB. (RK)

4742: ARCHITECT, RAF Strike Command at 0641 in USB wkg ASCOT 3220. (MT)

4902: Unid ARQ-mode at 0540 in 100/398, C3-Gold id'd as ARQ but wouldn't synch. OM/SS on 4900 immediately following termination of signal. (DW)

5049.2: Presumed Portuguese State Police Station monitored at 0745 in ARQ w/a brief MSG in PP (IJ)

5091: YL/EE, JSR2 Mossad bcst in USB at 1530 // 7540 kHz. (TY)

5201: Cuban CW net at 1520, one station audible wkg EGY, RCT. (AWH)

5205: AAT3TMD wkg AAT3IA in 300 baud packet at 0455. (TS) *(USAF MARS — Ed.)*

5230: YL/EE, CIO2 Mossad bcst in USB at 1545 // 8465 // 10352 kHz. (TY)

5245: MRC01, RAF Cadets, G at 1032 in USB, Stations on the net: MRQ95, MRB01, MRA01, MRC01, MRO02, MRQ32, MRC28, MRH01, MRO16, MRH19, MRW02, MRW73. (AB)

5266.5: HEP5, Kantonspolizei Zuerich, SUI at 1144 in CW w/VVV.(AB)

5320: The Russian Man Numbers Station heard at 0304 in AM w/YL/EE 5FGs. Missed sign on. QRT at 0322Z w/"137 137 280 280 00000." (DW)

5341: Cuban Babbler at 1641, idle, w/hum. Gone 1655 recheck. (AWH)

5360: Venezuela Barquisimento clg Maracaibo at 2350 in USB, 2 SS/YL w/brief QSO. (AWH)

5391: B8O, Royal Navy exercise, G at 1424 in USB w/C-zero-P. (AB)

5410: YL/EE rpting 872 872 872 00000 in AM at 0315. (TS)

5411: FOXTROT TANGO, USN Link-11 Coordination NCS at 0708 in USB wkg other single letter callsigns w/link-11 coord tfc. FT net is often associated w/JIATF-E interdiction efforts. (*Ed.*)

5450: RAF Volmet at 0250 to 0315 w/wx conditions & forecasts, mentioned "Heathrow" & w/ID @0305 as "RAF VOLMET," then did the same wx all over again. (JO)

5510: Cuban CW net monitored at 1650, one station audible w/peculiar "tremolo" on carrier. Noted same station on 6570 previous night at 0400. (AWH)

5529: Iberia Madrid, E at 2301 in USB w/unid Iberia aircraft. (AB)

5550: New York Radio at 0050 in USB wkg REACH Victor 9, American 55, enrt to San Juan and LL 78. (SW)

5598: New York ATC at 0146 in USB wkg El Al 205 w/selcal ck GJ-RW. (RK) NY Radio at 0331 in USB wkg REACH Victor w/flight levels. (SW)

5630: YL/EE Mossad stn in USB at 0319 rpting SYN28P14F553. (TS)

5680: One Alpha Sierra wkg Kinloss Rescue (G) at 1331; Gotland Rescue (S) in r/check w/Tallin Rescue (EST) at 1303, then Riga Rescue Radio at 1304. Kuresaare Rescue (EST) in r/check w/Gotland at 1307. Rafair 7L22 clg Kinloss, landing Koksidje! Sweden Air Rescue clg Hotel 99 & 96 at 1221. Belgian AF 92 in r/check w/Koksidje Rescue (BEL) at 1224. Westland 08 in r/check w/Kinloss at 1236. Bodo Rescue (NOR) wkg Sabre 33 in EE at 1324. Karup Rescue (DNK) in r/check w/Glucksburg Rescue (D) at 1336. Sweden Air Rescue wkg Hotel 94 at 1342. Tallin Rescue (EST) in r/check w/Riga Rescue at 1310. Kinloss Rescue wkg SMG38 in training exercise "Yellow Scorpion" at 1215. X9F clg Kinloss re passing a message to "Mother at Faslane Ops" (Scotland), Kinloss. All in USB. (AG)

5687: DHM91, German Air Force Muenster, D at 1422 in USB w/unid a/c. (AB)

5693: NOI, AirSta Detroit, Mi, at 1845 in USB wkg CG 6565 for wx. (MT)

5696: North Bend Air at 0233 clg 6593. USCG Group Charleston at 0419 clg 6508, USCG HH-65A. NMW, USCG Group Astoria at 0534 w/MIB. "Hello all stations, hello all stations. This is Coast Guard Group Astoria" and into offshore wx. This is the 2670 kHz. MIB, obviously on the wrong frequency. No signal noted on 2670. Terminated at 0538 in mid-broadcast. (DW) PANTHER 400, DEA, Georgetown, Bahamas at 0037 wkg CAMSLANT re status of 25 CHARLIE. (*Ed.*) All in USB.

Shortwave utility fans can take a behind-the-scenes look during space shuttle launches. (Photo courtesy NASA)

5700.4: HABITAT: PATWING 10, NAS Whidbey Island, WA heard at 0233 in USB wkg H0: ref's to "CRATT" & WY04C. (DW) *(CRATT is Crypto Radio TeleType, also known as NATO 100, encrypted normally 75 baud RTTY — Ed.)*

5714: ARCHITECT, RAF Upavon, G at 1132 in USB w/Celebrity broadcast. (AB)

5875: North Korean YL nbr stn (R Pyongyang) in powerful AM at 1400 // 4770kHz. (TY)

6159.9: Mexico? SS military in USB at 1630 w/"955" wkg "345" who answered only on CW. Some blocks of CW machine 5FGs sent by placing mic in front of some kind of code oscillator. (AWH)

6200: NRPJ, USCGC Laurel (WLB-291) at 0258 in USB clg unid cutter, CAMSLANT adv they up on 5223.0. (*Ed.*)

6207: Unid CW monitored at 1415, "LEO" hand keying 5LG's to another inaudible station, "QRA LEO BT GR nn BT" before each block. (AWH)

6215: North Korean YL nbr stn (R Pyongyang) in AM at 1400. Similar but non-parallel Korean nbr stn heard on 4770 // 5875kHz. (TY)

6376: WCC, Chatham Radio at 0007 w/CW wheel. (SW)

6485: Lincolnshire Poacher lady passes 5FGs in USB at 2200 // 5422 // 8464kHz. (TY)

6493.5: LYL, Klaipeda Radio, LTU at 2206

Table 1. Frequencies Used For Past Shuttle Launches

Freq	Mission	Use	UTC	Remarks	Freq	Mission	Use	UTC	Remarks
2622.0	STS-63	Booster Recovery	0521		5711.0	STS-70	Range Safety	1323	
2622.0	STS-76	Booster Recovery	0523		5711.0	STS-71	Range Safety	2003	
2764.0	STS-63	Range Safety	0401		5711.0	STS-76	Booster Recovery	2335	
2764.0	STS-67	Range Safety	0225		5711.0	STS-77	Launch Failure Exercise	1159	
2764.0	STS-68	Booster Recovery	0755						
2836.0	STS-68	Range Safety	0653		5810.0	STS-51	Range Safety	2034	
3041.0	STS-76	Range Safety	0739		6897.0	STS-54	Range Safety	1338	
3120.0	STS-56	Range Safety	0426		6937.0	STS-75	Range Safety	1818	
3120.0	STS-68	Range Safety	0508		6937.0	STS-82	Range Safety	0730	
3187.0	STS-55	Booster Recovery	0440		6937.0	STS-84	Range Safety	1543	
3187.0	STS-56	Booster Recovery	0325		7184.2	STS-54	WA3NAN	1329	
3187.0	STS-64	Range Safety	1108		7184.8	STS-55	WA3NAN	1450	
3187.0	STS-68	Booster Recovery	0746		7185.0	STS-58	WA3NAN	1439	
3187.0	STS-69	Range Safety	1108		7185.7	STS-85	WA3NAN	1441	
3365.0	STS-59	Range Safety	0734		7765.0	STS-77	Range Safety	1038	
3859.0	STS-54	WA3NAN	1329		7765.0	STS-78	Range Safety	1436	
3859.2	STS-69	WA3NAN	1346		7765.0	STS-80	Range Safety	1956	
3860.0	STS-78	WA3NAN	1449		9023.0	STS-74	Range Safety	1303	
3860.2	STS-51	WA3NAN	1142		9043.0	STS-54	Range Safety	1335	
3860.2	STS-57	WA3NAN	1245		10780.0	STS-51	Coordination	1953	
3860.3	STS-56	WA3NAN	0509		10780.0	STS-58	Coordination	1443	Cape ID'ed as FISHER
3860.3	STS-63	WA3NAN	0522						
3860.5	STS-68	WA3NAN	1054		10780.0	STS-59	Coordination	1831	
3860.5	STS-70	WA3NAN	1342		10780.0	STS-61	Coordination	1913	
3860.5	STS-76	WA3NAN	0813		10780.0	STS-69	Coordination	1845	
3861.4	STS-74	WA3NAN	1256		10780.0	STS-75	Coordination	1815	
4520.0	STS-68	Range Safety	0653		10780.0	STS-76	Coordination	2122	
4704.0	STS-68	Range Safety	0949		10780.0	STS-77	Coordination	1637	
4992.0	STS-76	Range Safety	0705		10780.0	STS-80	Coordination	1735	Cape ID'ed as FISHER
5011.0	STS-67	Range Safety	0006						
5180.0	STS-56	Range Safety	0310		10780.0	STS-81	Coordination	0123	
5180.0	STS-56	Booster Recovery	2339	Attempt #2	10780.0	STS-83	Coordination	0248	
5180.0	STS-59	Range Safety	0731		10780.0	STS-84	Coordination	1435	
5180.0	STS-61	Range Safety	0459		10780.0	STS-85	Coordination	0119	
5180.0	STS-87	Range Safety	1814		10780.0	STS-86	Coordination	1948	
5190.0	STS-68	Booster Recovery	1037		11217.0	STS-72	Range Safety	0930	
5190.0	STS-69	Booster Recovery	2310		14295.0	STS-79	WA3NAN	1615	
5246.0	STS-86	Range Safety	1951		20185.7	STS-61	WA3NAN	1610	
5711.0	STS-69	Range Safety	1516	Attempt #2					

in CW w/Nav wngs. (AB)

6530.8: Unid Cuban stn at 1650 in USB on w/open voice ckt w/usual crackle/hum like a babbler station. This freq noted previously w/ voice scrambling. (AWH)

6589: The "6589" voice net, Cuba at 1420 in USB, w/ESTACA (USTACA?) clg ZAMORA, ROMANA, for sig checks. 5688 active at time also, daily lately in fact. (AWH)

6604: New York Volmet at 0015 including volcano ash report from Monsurrat, at 0020 Gander volmet. (SW)

6679: Hong Kong Volmet w/avian WX in EE in USB at 0920//8828//13282 kHz. (TY)

6683: EXECUTIVE 1 FOXTROT, a/c w/member of U.S. Presidents family aboard, at 0024 in USB wkg Andrews Presidential w/pp traffic. (*Ed.*)

6697: RENTAL (poss E-6B TACAMO) at 2207 in USB w/EAM broadcast. (*Ed.*)

6739: Hickam GHFS, Hi, USA at 0550 in USB wkg REACH 5251 w/pp to "Command Post." (MT)

6761: RAID 66 monitored at 0130 in USB clg REACH 4067 (not hrd), app wants some gas. At 0543 RAID 66 clg NORDIC CONTROL no joy. (*Ed.*)

6797: Cuban YL/SS numbers station at 0549. Had bad hum on signal which went off right after the YL ended the msg. Carrier off a few seconds later. (TS)

6806.5: Unid 1655-1719 in FEC, relay of NMN marine wx until rather abrupt s/off w/out ID. (AWH) *(Looks like someone patched the wrong circuit like the 5696 log above — Ed.)*

6826: YL/SS numbers stn at 0334 in AM w/5FG. (DB) *(Cuban so called "Atencion" stn — Ed.)*

6829.5: THF, unid, poss Australian Military, heard at 1349 in USB, w/ Tango Hotel Foxtrot wkg Bravo Alpha 2 passing location in Australia. (*Ed.*)

6840: EZI, Mossad, ISR at 1800 in AM, Id EZI1. (AB)

6845: VJJ, RFDS Charleville, QLD, Australia monitored at 0900 in USB closing down for the evening. (IJ)

6854: Cuban CW cut numbers stn at 0323 w/5FGs. (TS)

6860: YL/EE in AM at 0300 rpting 818 818 818 00000. (TS)

6867.8: Cuba (presumed), unid RTTY 50/500, at 1850 sporadic blocks of RYRY alternating w/idle periods, at 1905 sent seven lines of 5FGs w/blank line after the fifth. Related activity on 5307, idle until 1917 when into RTTY 50/500R, sent several lines of RYRY, then pulled plug at 1921. Possibly related was a tx on 9094 sending 100/500 reversals but nothing else, pulled plug around the same time. Presumed Cuban military or intelligence. (AWH)

6869: The Russian Man Numbers Station at 0205 in AM, YL/EE 5FGs (x2). Missed sign-on. QRT at 0225 w/"632 632 125 125 00000." (DW) Same at 0206. (TS)

6876.5: U.S. military w/D5P wkg H2V heard at 1500 in USB, Pacific time zone location, also data in same format used by spook P7X, "we need the same information at 0700 & 1700 every day" & advice to be careful what is sent over HF since it isn't secure. Also discussions of using SATCOM when HF doesn't work. (AWH)

6945: Unid at 1500 in CW w/62 62 33 33 966 + 5FG. (AB)

6959: Lincolnshire Poacher numbers stn at 2040 in USB, YL/EE w/5FG. (DB)

6984: SNN299, MFA Warsaw, POL at 1440 in POL-ARQ 100bd Msgs. (AB)

6993: SAM 375, USAF C-20H tail 92-0375 monitored at 2126 in USB wkg Andrews VIP w/pp SAM Command re departed 2115z w/DV2 plus 5. (MT)

7337: Lincolnshire Poacher, CYP heard at 2245 in USB, just caught the end of the transmission. (AB)

7472: Cuban YL/SS numbers stn in AM at 0607. Used deeper voice which had bad hum & distortion when YL was speaking. Only sent one 55 grp message instead of the usual three 150 group msgs. (TS)
7535: Hrd during the month wkg SESEF Norfolk: NMJE, USS Estocin (FFG-15) at 1605, (presently a reserve vsl) w/HF testing; NJJC, USS Clark (FFG-11) at 1435, another Oliver Hazard Perry-class frigate w/test on URT-23 (xmitter model) #1; NEXS, USS Emory S. Land (AS-39) at 1802, L.Y. Spear-class submarine tender, w/HF testing; N/A, USS Thunderbolt (PC-12) at 1838 wkg SESEF, adv turning ship over to USCG & need some related tests. (*Ed.*)
7540: YL/EE, JSR2 Mossad bcst in USB at 1530 w/QRM from BC (Adventist World R) on the same frequency. Also noted on 5091 kHz. (TY)
7635: ASPEN GOLD 24, Colorado CAP at 0143 in USB w/end of National Communicators Net. Opened the net to anyone. At 0144, wkg Beaver Fox -?, Oregon CAP unit. (DW)
7682: Cuban CW cut numbers stn at 0702 w/3 msgs. (TS)
7791.5: MKK, British Military, at 2033 in VFT w/1 channel 75 bd RTTY sending foxes, RY's, & "test de mkk." (*Ed.*)
7846: Atencion spook stn, Cuba, at 1804 in AM, SS/YL w/5FG, missed callup. (AWH)
7910: Unid Russian Station at 0530 in USB w/OM in RR. (IJ)
7916: Cuba, COE92 clg COE36 at 1325 in, no reply. (AWH)
7971.7: Unid French Forces at 0100 on in ARQ-E 96/400, idle past 0500, no sign of 7841/8510. Off ever since. (AWH)
7992.5: NNN0MDQ: USN Mars 0111 PACTOR 200/200 w/tg's from USCGC Sherman, WMEC-720. (DW)
8047: SAM 683, USAF C-9C Special Air Mission a/c tail 73-1683 at 1709 in USB w/pp via Andy VIP re ETA & fuel needed. (*Ed.*)
8122: HMAS Brunei, Landing Craft Heavy (L127) at 1222 wkg Darwin Control. Request ZNI on 8 MHz. HMAS Kanimbla, Amphibious Transport Ship (51) at 1223 wkg Darwin Control re five immediates, first message is an exercise msg re: a SAR exercise. Msg was prefixed w/"exercise/exercise/exercise." HMAS Hobart, Guided Missile Destroyer (39) is on-scene coordinator. Other units include HMAS Perth (DDG-38), HMAS Sydney (FFG-03), P-3C callsign SHEPHERD-697, and P-3C, callsign STRIKER-698. (DW)
8240: NRPT, USCGC Madrona (WLB-302) heard at 0052 wkg CAMSLANT, posn 2435N/08017W, op's normal. At 2323, NMUD, USCGC Diligence (WMEC-616) wkg CAMSLANT (on 8764.0) for pp re computer problem. (*Ed.*)
8260: Unid stn at 0203 in RTTY 50/880 w/ 5FGs. Missed msg preamble. Every 100 5FGs has group count to the side (ex: 03980 02331 300). 2nd msg begins "108 30 05100 05100." Logged this net before on 8259.8 and 8271.5. Multiple messages sent, each w/sequential msg serial numbers (108, 109, 110) and a couple with more than 300 5FGs, one msg was over 600 groups. Down at 0219 w/ "-QRU." Into CW at 0220. (DW)
8316: RNZN, Auckland, New Zealand at 0740 in USB, YL w/NAV warnings. (IJ)
8320: Cherry Ripe numbers station at 1200 in USB w/msg for "47768." (DW)
8351: TK "Lenaneft 2052" (ERXV) msg from Km Doronenko w/eta for Istanbul to UFN (a 2245 DWT sea-river tanker of Novoexline, Novorossiysk) in CW 0923. (HOOD)
8359: TKH "Vasiliy Shukshin" (UVKJ) with msg to Portsmed Piraeus. (This is a cargo vsl of Ukrainian Danube Shipping Co, other vsl same name is a sea-river cargo vsl of North Western Shipping Co, St. Petersburg with c/s UASG) in 50Bd RTTY at 0836. (HOOD)
8375: New Star Broadcasting heard. CC/YL, w/5FG's in AM at 1430. Similar but non-parallel transmission heard simultaneously on 8300, 9725, 11430, 13750, 15388 kHz. (TY)
8399.5: UHFJ, SST Nerittina at 2014 in RTTY 50/170, Russian-flagged Medium Seiner & Tuna Catcher w/RYRY/DE to UIW, Kaliningrad Radio, then sends tfc for TR Tol'ko Bereg & SST Melongena, ship last logged 12/94. (*Ed.*)
8403: PWCE, Caboclo (V-19) monitored at 2245 in RTTY 75/850, Brazilian Navy Imperial Marinhero-class 911 DWT patrol boat w/RYRY/SGDG/DE to PWF33, Natal Naval. (*Ed.*)
8433: Global Radio's new Barbados station (8PO) wkg M/T Psara (C6NM8) and giving auto ID as "QRA 8PO/834" (channel 834) in SITOR at 0944. (HOOD)
8471: Capetown Naval Radio (ZRQ) w/CW marker ZRQ2/3/4/5 at 2206. (HOOD)
8541: Bahrain Radio (A9M) w/CW/SITOR marker at 1733. (HOOD)
8731: Capetown Radio (ZSC) wkg unknown vsl (c/s IQX . . .) for pp to Italy in USB heard at 2230. (HOOD)
8737: 5BA42, Cyprus Radio at 0405 in USB w/voice mirror/marker "this is Cyprus Radio . . ." repeated. (*Ed.*)
8764: NMG, CommSta New Orleans at 2041 in USB wkg vsl Freeport Texas re a 35-foot shrimp boat "Rebel Yell" that was taking on water. (DB)
8803: Helsinki Radio wkg Baltiyskiy 111 (UDCC) for pp in USB at 1004. (HOOD)
8806: Continental 67 at 1427 in USB clg "New York" on "8846" . . . oops! (*Ed.*)
8843: San Francisco (CEP-1/2 MWARA) at 0346 in USB wkg unid flt w/ATC request for new FL. (MT)
8881: Dakar Radio wkg Air France 31 in USB at 1553. (HOOD)
8900: Cuban Babbler, 1545 to 1830ish, idle w/hum, crackle, no tfc noted, DSB w/out carrier. Probable "last week of month" maintenance check. 5688 active same time. Suspicious carrier on 5708 also, but no audio noted. (AWH)
8916.7: Unid Egyptian Embassy at 0009 in ARQ 100/425 w/ATU-80 AA tfc. (*Ed.*)
8944: U.S. Tuna Fishing at 0535 in USB w/2 OMs w/general chit-chat. (IJ)
8957: EIP, Shannon Volmet, Ireland at 0107 in USB w/aviation wx. (MT)
8968: ULTIMATUM at 0128 wkg MILLINER re NIGHTWATCH is down for maintenance for apx 30 mikes & request he authenticate. After authentication, unit accepted into the net at minute 0129. Then QSY to Z175 (9016). (DW) BIGEYE 12 (EC-135) wkg WESTERN SKY for check of radars. This was followed by a chirping noise, then squawking, beeps, & a buzzing noise. WESTERN SKY reported that all radars were alpha one at 0129. (RK) Both in USB mode.
8971: KING 01 at 0217 wkg BLUESTAR (reportedly P-3/ASW Op's Center, NAS Rosey Roads, PR) w/status msg. At 0434 DEMON 802 wkg WESTERN SKY (poss PAC area ASW op's center), reporting on station 0400z, V5A holds his flight following (radio guard), next contact off stn time 0830z. (*Ed.*) WOODY wkg N2P at 0131 in USB w/report of oil slick & debris at 20-35N/80-25W. (RK) All in USB.
8983: Coast Guard 2139 at 2000 w/pp to Miami Op's re search for Cuban vsl believed defecting to U.S. w/11 POB. (DH) CG 6024 at 2015 reporting flight ops normal to CAMSLANT. (MF) CAMSPAC Pt Reyes wkg CG 1702 re "Strange lights & flare sightings at 710N, 163" W (off Alaskan coast). Later hrd Commsta Kodiak wkg 1702, who reported rescuing five people from sinking tuna boat. 0300–0625. (RK) All in USB.
8987: MKL, RAF Edinburgh monitored at 2200 in CW. (DW)
8990: Two KC-130 radiomen at 1925 in USB chit-chatting while enrt Panama, discussed how to work w\LOBO. (MF) *(LOBO is Southern Command-SOUTHCOM, Air Op's Center, Howard AFB — Ed.)*
8992: MacDill at 1942 in USB w/pp for SPAR 84 to DSN#567-4XXX. (MF)
9007: Aircraft 325 monitored at 1751 in USB wkg Trenton Military for selcal check: FM-EJ. (DW)
9016: NIGHTWATCH 01 wkg SKYLIGHT w/radio checks at 2310 in USB. (SW)
9023: OKIE SAM, NORAD SE Sector Link-11 Op, Tyndall AFB, FL at 1548 in USB wkg BANDSAW JULIET (E-3 AWAC's) w/QSY to NORAD SatCom. (*Ed.*)
9025: Unid 19005 at 1623 in USB wkg SCOTT (AFB) re FURIOUS thru Offutt, adv stand by & will try Croughton. At 1650 Offutt wkg Andrews for radio ck. (*Ed.*)
9122.5: WUG: U.S. Army Corps of Engineers (USACE) Net Control Station, Vicksburg, Mississippi 1517 USB wkg WUM: U.S. Army Topographic Engineering Center, Ft. Belvoir, WUB1: Unid USACE, WUB5: USACE Norfolk, WUE1: Unid USACE, WUE7: Unid USACE, WUE3: USACE Pittsburg, WUE2: Unid USACE, WUG1: Unid USACE, WUE, USACE Cincinnati, WUG4: USACE New Orleans, WUC6: USACE Mobile, WUC2: USACE Wilmington, WUC3: USACE Charleston, WUC4: USACE Savannah, WUJ1: Unid USACE NW district, WUJ2: USACE Seattle, WUJ: USACE NW District HQ, Omaha, WUK4: USACE Los Angeles, WUC5: Jacksonville, WUL3: Unid USACE. (DW)
9130: EZI, Mossad, ISR at 1600 in USB, Id EZI & 5LG//6840 kHz. (AB)
9139: Cuba? Unid at 2203 in 81-81, 81/500, beta idle, VERY strong. (AWH)
9263: Cherry Ripe lady passes 5FGs in USB at 2200 // 15616 // 12056 kHz. (TY)
9847: Unid Diplo at 1537 in ARQ 100/390

w/SS nx circulars & several msgs marked "extraurgente." All msgs marked with "XBRR/SITOR" in the heading. All messages signed by the same individual. Strong, but somewhat garbled signals. (DW)

10291: GKX, Portishead Radio, England at 1955 in USB w/various pp's. (IJ)

10317.4: GYU, Royal Navy, Gibraltar monitored at 2155 in PICCALO-6, amusing test tape w/"OF ALL THE FISHES IN THE SEA THE MERMAID IS THE ONE FOR ME" & RYs. (AWH)

10529: Test tone of the CIA counting stn heard in powerful AM at 1345, then unusual EE/YL nbrs start at 1400 in very low modulation w/distinctive hum, suddenly carrier was off at 1403. Possible malfunctioning? Unable to find out a parallel freq. Next day this stn transmits usual 3+2FG's at 1300 // 7547 kHz. (TY)

11140: Spook stn heard at 1321, "Boris Badanov," EE/OM w/5FGs 2x, autovoice slavic accent, strong, fluttery. Playback rate varied a bit, but not voice pitch. 1401 "613 248 0 0 0 0 0." (AWH)

11175: Romeo Sierra 781 at 2134 wkg MacDill w/rqst pp to unk location. (CB) *(Navy P-3C of VR-61, NAS Whidbey Island, WA — Ed.)* MacDill w/pp at 1930 in USB for SPAR 84, interrupted by Offutt EAM. (MF) YANKEE 60 (P-3, VP-92, NAS S. Weymouth, MA) wkg Yankee Ops re arr time via MacDill at 2035. (RK)

11226: VICTOR 1 & VICTOR 2 at 1953 in USB discussing radio strengths, mentioned Ch.4-5078/Ch.13-13218. (MF)

11226: Warner Robbins at 2017 in USB conducting scan test w/AIRCRAFT-0029. (MF)

11232: RAYMOND 24, Tinker AFB, OK at 1724 wkg SENTRY 60, USAF E-3B AWACS re tanker was airborne at 1630. UN03 at 1745 wkg Trenton Military. (DW)

11270: Russian Man, RUS at 0020 in AM w/Id 615. Messages 76941 & 71051. (AB)

11279: Alma Ata Volmet, Russia, w/avian WX in RR in USB at 0515. (TY)

11297: Rostov Volmet at 1125, Kiev Volmet at 1120, both Russia, w/avian WX in RR in USB. (TY)

11494: HAMMER, U.S. Customs Domestic Air Interdiction Coordination Center (DAICC), March AFB, CA at 2018 in USB wkg OMAHA 558 w/posn, then SERVICE CENTER, (back-up DIACC, Oklahoma City, OK) att to call the 558. *(Ed.)*

11545: Lincolnshire Poacher, CYP at 1500 in USB, Id 79727 & 5FG // 13375 kHz. (AB)

11565: YL/EE, EZI2 Mossad best in USB at 1530 // 13533 kHz. (TY)

12221: YL/EE, w/3+2FG's in AM heard at 1200 // 13906 kHz. Similar but non-parallel nbr stns heard on 10223, 9547kHz in AM at same time. (TY)

12225.4: Unid Russian Telecom at 0540 in USB w/YL in RR. (IJ)

12497: M/V "Sompa" (ESAF), Estonian gen cargo vsl wkg UAT Moscow w/tfc in EE for crew wages list from Km Kedrov in ARQ at 1120. (HOOD)

12562: UKSY, NIS Akademik Boris Petrov heard at 2351 in RTTY 50/170, Russian-flagged research ship, w/TG's via Moscow Radio. *(Ed.)*

12748: IRM, Roma Medico Radio, at 1204 w/CW Marker. (AB)

13200: ICER 21 wkg McClellan, QSYed to 11175 but no joy there 2210 in USB. (RK)

13289: U.S. tuna fishing at 0535 in USB w/2 OMs talking about sending e-mail Msgs. (IJ)

13555: YL/EE, w/3+2FG's in AM at 1100 // 14406kHz. (TY)

13650: Spanish numbers station at 0303 in AM, SS/YL operator w/5FG's. (SW)

13880: MKK, RAF London, England at 2000 in VFT 50 Baud all channels w/RYIRYI & Quick Brown Fox Tests. (IJ)

13927: NNN0COA, USS Arleigh Burke (DDG-51) at 2240 in USB wkg AFA2AG, USAF Mars w/crew pp's. (DW)

14352: Russian FAPSI, Lourdes, Cuba at 1825 in RTTY 75/500 w/RYRY to KAC then into 5LG's on link 00128. (Ed.)

14396.5: NNN0VUV: Private USN MARS, S. Calif. heard at 1815 in USB wkg KGD34: Nat'l Coordination Center, Arlington, VA then NNN0OXU: Private USN MARS, Oregon. (DW)

14425: Spook "Martian Man" at 1330 in AM w/EE weird, squeaky OM auto voice slowly repeating "482 482 482 00000," strong, fluttery. Sounds like same station previously noted on 13375. (AWH)

14452: HMF57, KCNA Pyongyang, N.Korea at 0755 in RTTY 50/500 w/RYRY. (IJ)

14487: Call up tune (Lincolnshire Poacher) at 1400 in USB then w/5FGs to 1447. (CT)

14585.7: France? One end of Tchad ckt active

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CIRCLE 76 ON READER SERVICE CARD

today, ARQ-E3 200/400, but too weak to copy. 16305.7 tx on simultaneously. No tfc on either. (AWH)

14670: CHU, CAN at 2244 in USB w/time signals/announcements. (AB)

14686: 6020 heard at 1950 in USB reporting flight Op's & posn to ATLAS. (MF) *(USCG helo — Ed.)*

14834: Cuba? Probable Russian intelligence monitored at 1636 in RTTY 75/500, off before decoder booted. Carriers on 7947 and 14787 also. (AWH)

14878: AAA0USA U.S. Army MARS Ft. Lewis at 1648 in PACKET 300/170 wkg AAA6USA, U.S. Army MARS, Ft. Sam Houston relaying msgs from ABM4USH, U.S. Army MARS Republic of Korea. (DW)

14922: DZFG, Serbia MFA at 1345 on in FEC-A 144/400, on-line XYXY crypto msgs w/clear headers, some CW fills. (AWH)

14996: RWM, Moscow time signal station, RUS heard at 1710 in CW w/CQ & time signals. (AB)

15016: Andrews at 2006 in USB w/pp for CW-159 to unid loc. (MF)

15034: Trenton Military 1735 USB w/aviation wx. Sign down w/id at 1736. (DW)

15094: STICKLER wkg NIGHTWATCH 01 monitored at 2307 in USB w/EAM traffic on ZULU-235. (JJ) *(Note this is a new Zulu designator — Ed.)*

15820: Radio Rivadavia Argentina program feed heard at 0340 in USB w/Music, Adds & News. (IJ)

15889: YL/EE 5F numbers stn in AM at 2315. Signed down w/ 467 467 118 118 00000. (TS)

16086: YL/EE, w/3+2FG's in AM at 1100. Unable to find out a parallel freq. (TY)

16087.7: RFVI, French Forces, Le Port, Reunion Island at 1754 in ARQ-E3 100/342 w/5LG msg to RFFIH. (*Ed.*)

16321.3: RFLIG, French Guiana, presumed, monitored at 1330 to 1400, ARQ-E3 192/400, hung up sending "RFFAA" over and over, not ckts IRT/RTI which were on usual 10798/ 10281, though UGI was missing from 16324.7; IGU was active on 16351.7. Gone later recheck same day, not heard here since. (AWH)

16332: "F," Russian Navy Vladivostok, "C," Russian Navy Moscow, "P," Russian Navy Kaliningrad, "S," Russian Navy Arkhangensk, w/CW channel mkr at 0730, all stns heard simultaneously. (TY)

16809.5: EAD, Madrid Radio, E at 1025 w/CW marker. (AB)

16829: USU, Mariupol Radio, wkg "Fatezh" (UWDL) gen cargo vsl of Azov Shipping Co. in ARQ at 1208. (HOOD)

16966: SVB6, Athens Radio, GRC at 1658 w/CW CQ QSX. (AB)

16976: LSD836, Burnos Aries, ARG at 2204 in ARQ w/Globe sitor free signal. (*Ed.*)

16986: CTP, NATO Oeiras, POR at 1700 w/CW marker. (AB)

17013: 5BA, Nicosia Radio, CYP at 1010 in CW w/VVV. (AB)

17141: UFN, Novorossiysk Radio, RUS at 1705 w/CW marker. (AB)

17314: NMN, USCG CAMSLANT, Chesapeake, VA at 1741 in USB w/offshore wx. //13089/8764//. (DW)

17359: SVN68, Athens Radio, GRC at 1725 in USB wkg vsl P3HF5 for R/T tfc in mixed EE. (*Ed.*)

17404: SVN62, Athens Radio, GRC at 1610 in USB w/Voice mirror. (AB)

17550.7: RFTJ, French Forces, Dakar, SEN at 1849 in ARQ-E3 192/400 w/control de voie on circuit "AFL." (*Ed.*)

17930: Warship Sierra, Tongan Defence Force Patrol Boat, at 0735 in USB w/2 OMs in EE & Tongan, made several references about the captain & would come up on this freq again tomorrow. (IJ) *(that's certainly a rare log! — Ed.)*

17976: Offutt GHFS, Omaha (Elk Horn), NE, at 1815 in USB w/DWUSUH . . . EAM. (MT)

18018: ARCHITECT. RAF Strike Command at 1736 in USB w/H+30 color (or colour - hi!) coded airfield conditions. (*Ed.*)

18477.8: CLP1, Cuban Ministerio de las Relaciones Exteriores (MINREX), Havana, Cuba at 1543 in RTTY 75/425 w/396 "grupos" msg, then MINREX tfc to CLP23, Bissau, jumped to 18646 & tried 50 baud, then back to 75. (*Ed.*)

18597.5: EAE220, MFA Madrid, Spain at 1940 in TWINPLEX w/10 LGs. (IJ)

18760: P6Z, French MFA, Paris, F monitored at 1546 in FEC-A 192/390 wkg G7M, French Embassy Bangkok, Thailand w/"bonjour" & op chat. (*Ed.*)

18986.7: RFHI, FF Noumea, New Caledonia at 0705 in ARQ-E3 100/400 w/Controle de Voie. (IJ)

19131: ATLAS at 2039 in USB receiving flight ops from unid unit, at 2052 FLINT 413 passing flight ops normal. (MF)

19724.5: UIW, Kaliningrad Radio, RUS at 1158 in ARQ w/unid vsl.(AB)

19736.5: ZLA, Awanui Rdo, New Zealand, w/Sitor free sig CW ID at 0340. (TY)

20496: Unid stn Rptg "VL81PS" in powerful CW at 0912. What is this? (TY) *(a radio propagation beacon in Darwin, Australia. Also listen for LN2A in Sveio, Norway on the following freqs/times: 14405/00, 20, 40 mins; 20945/04, 24, 44 mins; 5470/08, 28, 48 mins; 7870/12, 32, 52 mins; and 10407/16, 36, 56 mins — Ed.)*

20631: McClellan & Offut at 2305 in USB setting up pp's, McClellan mentioned A3O will be up in nine mikes (first time I've heard any Air Force activity here since 1992). (IJ)

23337: Andrews GHFS Md, USA at 1836 in USB wkg McClellan GHFS w/radio cks, this was S-397 but like Ian's 20631 log, nothing logged here since pre-1992. (*Ed.*)

26150: Unid pager-like system, HOL heard at 1530 w/data on 26150-26850 spaced by 100 kHz. (AB)

26470: Weak U.S. Studio Feed in NFM at 2230, could make out some music & the occasional voice was being drowned out by pirate CBers. (IJ)

26950: Colombia? Unid dispatch service of some sort here, AM mode, daily lately, not CB, numeric callsigns. Similar activity on 26815, 26880, 26890. The phone-patch service on the CB channels pretty good lately also. (AWH)

29710: U.S. Forestry comms in NFM for first time in six years. (IJ)

This month's contributors: (AB) Ary Boender, The Netherlands; (AG) Alan Gale, UK; (AWH) Albert W. Hussein, FL; (CB) Christian Bryant, GA; (CT) Clarence Thompson, TX; (DB) Dean Burgess, MA; (DH) Dennis Heider, OH; (DW) Dave Wright, TX; (HOOD) Robin Hood, UK; (IJ) Ian Julian, New Zealand; (JJ) Jeff Jones, CA; (JO) Joe Olig, WI; (JVA) Jon Van Allen (at sea between LA & Japan); (MF) Mike Fink, FL; (MT) Matt Thompson, FL; (RK) Richard Klingman, NY; (SW) Sue Wilden, IN; (TS) Tom Sevart, KS; (TY) Takashi Yamaguchi, Japan; and (*Ed.*) ye editor in Ohio. Thanks for another great turn out.

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CIRCLE 11 ON READER SERVICE CARD

Tuning In

(from page 4)

local police frequencies and hear a drug deal going down? Right from wrong teaches you to report what you've heard to the police. Young Johnny expects nothing less from his father. But today — and largely because of the way the system works — his father is more likely to do a loud "cover up cough" over the radio conversation, and move on to the next channel in frustration, never telling a soul.

And at this stage in the 2369 game, it's certainly a moot point to raise hell with Tauzin; although, in my opinion, all too many folks in the hobby community are now cuddling up close to Billy like they've been lifelong friends sipping a brew down in the Bayous; you know what I mean — folks who didn't know the name Billy Tauzin from Ron Paul until just recently. Ron Paul? Who's he, you ask? Ron Paul (Rep. Texas) cast the *one dissenting vote against H.R. 2369.*

The Voice Of Reason — AND The People

Out of it all comes the voice of one person, a lone voice of reason calling out amid an overwhelming majority of "yes" people. You know the other 414 voices well. They're clones of some of the folks in your office, school, club meetings, and, yes, would you believe in D.C. politics, whose heads are perched atop this invisible spring-loaded mechanism that keeps nodding "yes, yes, yes," to those with deep pockets around them. Not Ron Paul, though. No sir, he stood his ground — and ours too.

Paul's press secretary, Michael Sullivan, told me that Ron looked at four things when voting against 2369; first, " . . . the fact that the Constitution strictly limits what the federal government can and can't do — there's no provision for making crimes out of eavesdropping — that's a matter for the states."

Second, he said, "Then there's the more economic, pragmatic view . . . it seems to be a case of the government circumventing a better option — encrypting."

Third, "There's the problem of pure law enforcement. In this case, the possession of particular equipment could be illegal; in effect, a person has to prove they're doing nothing illegal — much like you're guilty until proven innocent," he said.

And fourth, he said, "There are those people who don't care about someone eavesdropping on their call — for whatever reasons, don't really care if folks are listening — but this forces people who don't *care* about privacy, or who utilize other methods of privacy . . . to pay for the cost of ensuring privacy for others."

Now, think about those four basic statements for a moment. It's what we in the radio community have been saying all along as far back as the '80s. Our hats off to Mr. Paul for having the common sense and insight that his fellow Representatives did not.

But now, it's a done deal as 2369 goes forward to the Senate, where it will undoubtedly be met with eventual solid support — although, at this writing, it's my understanding that Tauzin has no supporters — yet. But as the snowball gains momentum, watch those politicians nod. After all, what upstanding U.S. Senator would dare not stand behind the privacy issue? How would they tell their constituents they voted *against* cell phone privacy? Are you out of your mind? Of *course* Senator DoGood will vote for cell phone privacy. (In fact, the chief of his campaign fund-raising team is a *big* believer in cellular phone privacy).

Even though the 2369 battle was lost, and the war was won, there's still, perhaps, good news in this pile of political slime. Maybe now that the issue of cell phone privacy has been raised, the bill has passed the House, and is all but assured of eventually passing through the Senate, it will no longer be an issue worthy of our elected representatives. It's on to more important issues in Washington — issues and agendas that only the donors and Wheeler-dealers understand.

The nagging question remains, however: Do we leave well enough alone, as this watered-down version heads into the Senate, or do we put on our gloves for Round Two, knowing that if 2369 fails muster there, the bill goes back to the House, and could emerge next year with yet another coating of Teflon that's hot to the touch? ■

Computer Corner

(from page 49)

inal message. This is called quoting. Some e-mail programs do it automatically. This is not required, and if you quote the entire message and not just a small portion, this is actually a bad thing to do.

Most lists have a moderator or sponsor whose e-mail address was listed in the information sent to you when you joined. This person is available to help with any questions you might have about the list. Sending a message to this person directly and not via the address used to post to the list is a good choice whenever you need help or have a question about the operation of a list.

Updates

I wrote about version 2.0 of Precision Mapping last June, and recently I bought the new Precision Mapping Streets, Version 3.0 of this CD-ROM-based mapping program. The new version has many improvements and comes with a GPS interface for connection to many GPSs for use as a moving map display. I've found that carrying a single CD-ROM on trips is great for searching and locating addresses, and displaying a map that I can mark the locations and routes of interest.

Radio Manager for Windows supports the Uniden TrunkTracker 895XLT scanner in its current release. This shareware program offers a modest registration cost and many features, including support for multiple radios, the Opto Scout, and Opto Xplorer. The new TrunkTracker support features include uploading and downloading frequencies, IDs, lockout lists, channel names, and scan lists into the radio. Use of the software allows enhanced logging, searching, and alarm functions above and beyond what using the radio without a computer allows. Details on Radio Manager for Windows can be found at <http://www.interplaza.com/bensware/rm.htm>.

Cool Web Site

If you enjoy reading about computers, check out "The Rapidly Changing Face of Computer Technology" Web site at <http://www.europe.digital.com/rcfoc/home.htm> for information about where things are going.

If you have something related to computers and radios that you'd like to see covered here, please drop me a line at either the *Pop'Comm* HQ address, or via e-mail at <griffined@sprynet.com>. ■

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The Loose Connection

RADIO COMMUNICATIONS HUMOR

BY BILL PRICE, N3AVY

Someone's Batty In The Belfry

I have often gone unannounced to visit Norm, and I have more than once found him in a predicament — often a dangerous one — usually one that he couldn't get out of by himself. Several times, I have found him in a situation which would become life-threatening if someone hadn't happened along.

The most memorable incident happened the day I arrived unannounced to borrow back my ice chest one Friday evening before a Labor Day weekend. I had planned a family picnic, and didn't want to pay higher convenience store prices for anything I could take along from the supermarket.

Months earlier, I had lent Norm the chest so he could defrost the refrigerator in his apartment. To know Norm was to know that impatience would find him with an ice pick in his hand within five minutes of beginning the hot-water method. Norm's friends also were not surprised to learn that it was on the second or third poke that he released all the fridge's freon into the ozone layer.

To maintain his innocence when telling the building superintendent "the thing just stopped working," Norm carefully twisted the punctured line until the puncture was hidden from view. The super made some comment about how the thing had been scheduled for replacement for about two years, but he had been waiting for Norm to complain about it. Norm told me he would clean out my ice chest and return it soon.

There were other times when I had arrived to find Norm in dangerous places — roofs were always his favorites, what with his love of antennas. Trees were another, and with Norm's landlord forbidding him to erect even the tiniest outdoor antenna, there was always a challenge for him to erect some surreptitious wire array — often using almost invisible coil-wire patiently unwound from some old transformer.

A few months, ago he became pretty indignant and demanded that his landlord allow him to erect a flagpole on the part of the lawn nearest to the private entrance to his apartment. The landlord must have dreaded a Constitutional fight and told Norm to go ahead and erect the flagpole. Norm immediately brought a 25-foot flagpole from his apartment and mounted it on a base he had previously sunk into the lawn. Funny thing was, the flagpole was made of six-inch diameter PVC pipe, had a little bulge at the eight-foot level, and had four radial whips protruding at the 10-foot level. He had successfully installed a hidden Cushcraft R-5 vertical five-band ham antenna right under his landlord's nose, in a complex where window-mounted whips were verboten.

Today's predicament began a year ago when Norm and I had been "caught" installing an enormous vertical antenna (with a full set of radials) inside the hayloft of a former barn that had been converted into an apartment building in his complex. We had hauled all the parts and hundreds of feet of wire up through a trap door in a hallway ceiling during our lunch-hour. A young boy, perhaps eight years old, came out of his apartment door and asked what we were doing in the ceiling. Norm told him it was "secret surveillance activity" and we were forbidden to discuss it. He told the young man he hoped he would also be patriotic and keep the secret. Norm then gave the boy an ARRL pin which he said would identify him to other secret agents as someone they could trust. The kid's face lit up and he said, "Gee, thanks, mister," took the pin and went back inside his apartment.

That had been about a year ago, and today, as I pulled into the parking lot to get my ice chest, a small piece of board fell out of the sky and landed on the hood of my car. I got out and looked up toward the barn roof. There were no signs of Norm on the roof. I was sure I'd have found him dangling from the weather vane or in some similar predicament, and I'd have bet money he'd have been frantically waving for help, but he was no-where in sight.

"PSSSSSST!" I checked my tire — the one with the slow leak.

"PSSSSSST! BILL!" the stage whisper was unmistakably Norm, and I turned slowly in a full circle, looking for a sign that he needed rescuing.

"PSSSSSST! Up here!" A pink pair of boxer shorts — unmistakably Norm's, since he washed his Pendleton hunting hat with his entire load of white wash — waved on a stick through the louvers in the barn's cupola. A note came floating down for me to chase across the lot.

Old buddy — I came up hear at 4:00 a.m. — in my underwear. I was only going to adjust the antenna, and now the door to the apartment by the trap door is open and I can't get down. Go to my apartment and get my pants and help me get down. I've been up here all day." The note wasn't signed.

I got Norm's pants, and as I left his room I saw an ARRL pin on his bureau. I thought it might come in handy. When I reached the trap door, I could hear cartoon soundtracks coming from the open door of the apartment. Inside was the youngster who had trusted Norm when we installed the antenna a year before. I fastened the pin to my lapel and knocked on the door.

"Young man," I said, pointing to the ARRL pin, "I'm on a very important mission, and an agent needs your help. Can you help us?"

"Sure," the boy said. "Is Norm stuck up in the attic again? I'll get the stepladder from the stairway."

When he returned with the ladder, I gave him a dollar and told him his country appreciated his patriotism.

"Sure, mister," he told me, "but last time I brought a ladder for Norm he gave me a *five*! "

"Just put it on my account," a voice from the ceiling said. The young Capitalist took a five from my hand and closed the door. I was always glad I'd never befriended that Phelps guy on *Mission Impossible*. ■

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