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- **Making Contact on Ham Repeaters**
- **It's Here and Easy to Tune: Web Radio!**

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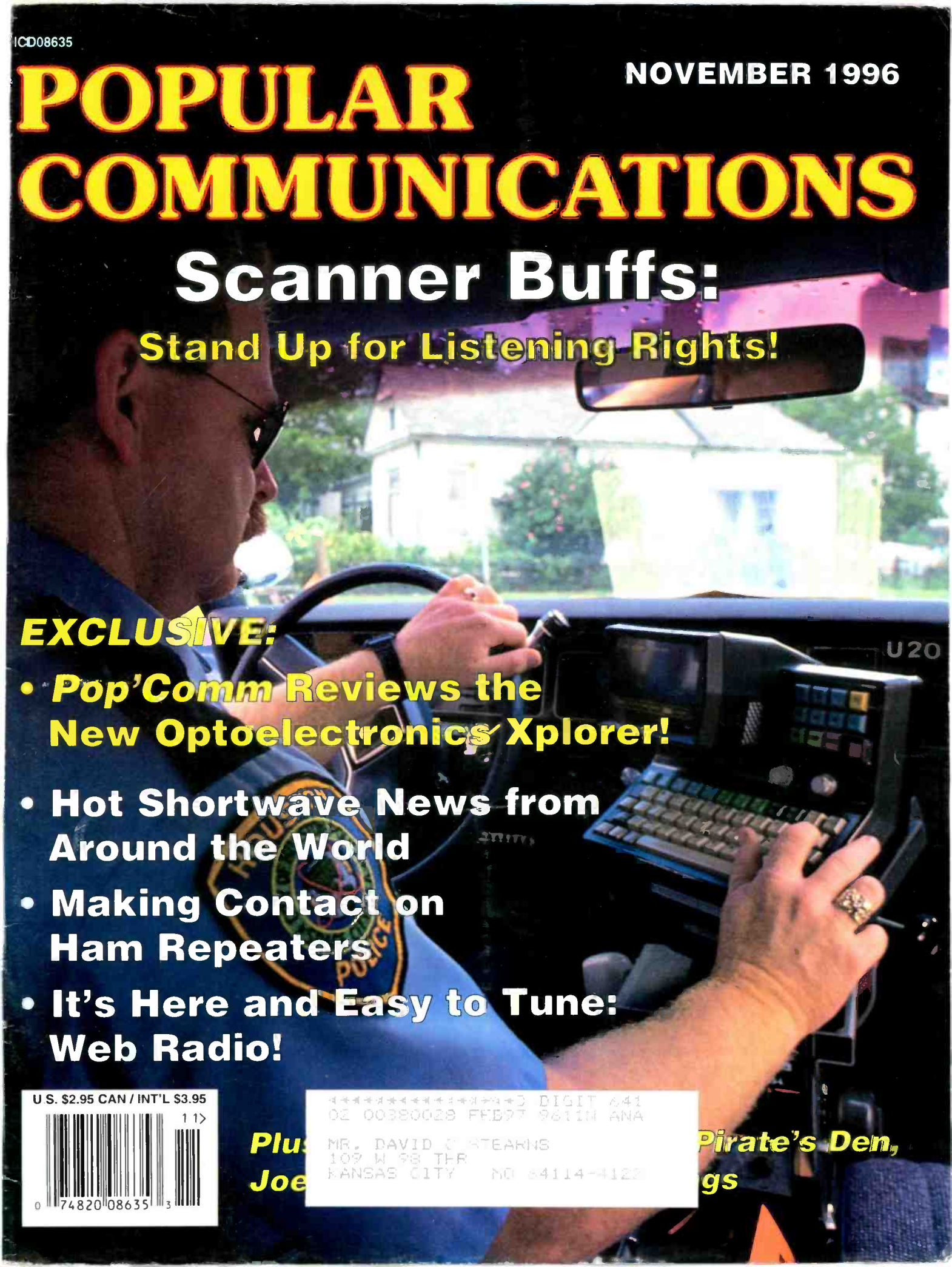


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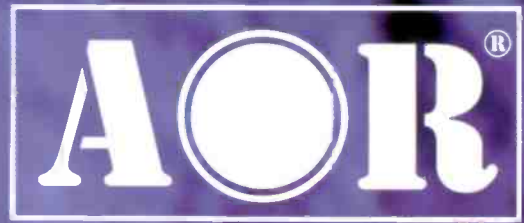
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Pirate's Den,
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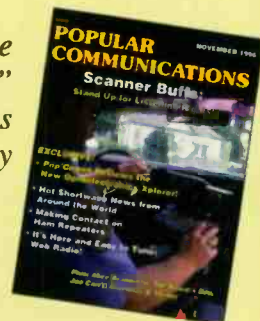
NOVEMBER 1996

VOLUME 15, NUMBER 3



page 36

ON THE COVER: A Houston, Texas police officer, Wendell Chance, uses a computer "CAD" system in his car. This computer system replaces voice radio. Houston, TX Police Dept. Photo by Larry Mulvehill, WB2ZPI.



FEATURES

Finding Broadcasting's True Roots

Alice Brannigan explains where today's pioneer stations really began!

By Alice Brannigan

8

Class D CB: The Service That Technology Forgot

Unchanged for years, it's time to transform CB before we see a revival of the "channel wars." Here's one possibility.

By Bill Pasternak, WA6ITF

12

Radio News

An exclusive product review of the new Optoelectronics Xplorer. *By Ed Griffin*

16

Product Spotlight

Find out what PerCon Corporation's new CD-ROM Databases can do for you!

By W. W. Smith

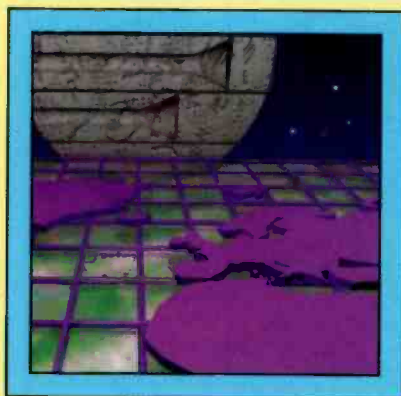
60

COLUMNS

Radio Resources (You Should Know)	20
The Pirate's Den	28
Antennas & Things	30
Scanning The Globe (Scanning VHF/UHF)	32
The Radio Connection	36
World Band Tuning Tips	40
Product Parade	42
The Listening Post	44
Clandestine Communiqué	50
Broadcast DXing	52
CB Scene	64
Communications Confidential	68
The Ham Column	74
The Loose Connection	76

DEPARTMENTS

Tuning In (Editorial)	4
Pop'Comm P.O. (Mailbag)	6
How I Got Started	24
Reader Survey	27
Readers' Market (Communications Shop)	77



page 44



page 64

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 - **World Radio TV Handbook**
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 - **Worldwide Aeronautical Frequency Dir.** By R. Evans
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 - **S.W. Receivers Past & Present 2nd Ed.** By F. Osterman
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 - **Guide to Utility Stations** By J. Klirgenfuss
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 - **Discover DXing!** By J. Zondlo
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 - **Understanding ACARS** By E. Flynn
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Tuning In

AN EDITORIAL

BY HAROLD ORT, N2RLL, SSB-596

To Scan . . . or Not to Scan . . .

This month, we're giving one of our readers, Robert Leef, a chance to sound off. If you feel strongly about a radio issue, drop us a line or send an e-mail and we'll give you a shot at being featured in the guest editorial position.

Bob is the founder of the Radio Communications Monitoring Association and Crest (CA) REACT. He is also the author of many radio related articles. His topic is, "Are CB Radios 180 degrees Off Course?" Here's his opinion:

"I have a feeling like the ship is sailing in the wrong direction. What do you think? CB radios have a switch that you can use to immediately change to Channel 9 for emergencies. Sounds like a great idea. The implication of someone always ready to help, a sense of safety and convenience. But what happens in many—or most—areas of the country? Nothing. No answer. Monitoring organizations such as REACT depend on volunteers, and this can be unpredictable. The Channel 9 switch is frequently useless.

Why not instead, build into every CB radio a priority scan feature that makes the radio switch to Channel 9 when there's a call? Now everybody in range is listening, no matter what channel they were on.

It CAN and has been done. In the past, SBE Linear Systems, Inc. used to have a CB that was similar in idea. The technology is available. Hello Cobra, Uniden, Maxon and RadioShack—are you out there? Let's get on the right course."

Bob Leef

Guaranteed Privacy?

When was the last time you walked through the mall talking to a friend or leaned over the fence gossiping with your neighbor? There you were, blabbing the time away, not concerned about who could hear you or, for that matter if you could listen to others around you. So what's the difference between this scenario and using your cordless or cellular phone? There is none.

Of all the technological marvels I own,

a cordless or cellular phone isn't one of them. Call me old-fashioned, stubborn or even paranoid, but you won't be calling me on the airwaves. Strange isn't it, that with all the two-way radios I've been using for all these years, that I wouldn't have another couple of "radios" to communicate from the backyard or out on the interstate? Besides, I can use the exercise walking 15 feet to the phone; we've got four of them, so wherever we are—even in the backyard, it never rings more than four or five times before it's answered.

It's a sure bet, though, that most of our hard-worked and talkative lawmakers in Washington and all of the state capitols have more cordless and cellular phones than all 7,000 RadioShack stores combined! No, I haven't asked any professional survey-taker about this, it's just a gut feeling I've got. It makes sense to me that those folks who are doing the wheeling and dealing on the cellular phones have the most to lose when ordinary folks like you and me overhear their conversations on our scanners.

Same is true about the many—and believe me there are plenty—of places where the cops consider you an enemy of the state if you listen to their comms on your scanner. They don't really *expect* privacy. They know that the small percentage of criminals who are dealing the drugs, or are involved in car theft rings and other assorted scams could care less about you, your life or possessions, and won't blink at an anti-scanner law like the ECPA or the latest version of legislation that makes it illegal to tune in cordless phones. These are laws designed with *you and me* in mind; the average Joe or Sue who, for whatever reason, listens to all kinds of communications, and yes, maybe to cordless and cellular conversations. I'm not going to get into the controversy about why folks listen to these comms, or any other comms for that matter. Some folks like to wear button-down collars, some don't.

The problem I have is with laws that have no business on the books in the first

(Continued on page 79)

POPULAR COMMUNICATIONS

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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*, 76 N. Broadway, Hicksville, NY 11801-2909, or send e-mail via the Internet to <popular-com@aol.com>.

Radio Reviews

Dear Editor:

I am a recent subscriber to your magazine, and enjoy reading it immensely. I especially like your "Pirate's Den," "How I Got Started," "Tuning Tips," and "Listening Post." What your magazine should have is a monthly review of one of the many commercially available shortwave radios that are out there. I often wonder which radios provide the best bang for the buck. We need Shortwave radio reviews!

George, KC8DAK
(from America Online)

Dear George:

Thanks for your letter. We've planned reviews of several receivers and scanners for the near future. Because of the lead time in getting reviews and articles from the writer's desk to your mailbox, it will probably be a couple of months from now, so stay tuned!

The "Good Ole Days"

Dear Editor:

When I read about the Telegraphone it reminded me of when I was a young boy and I saw in a local store a small used wire recorder for sale. I remember drooling over it on several occasions. I don't remember who made it, but it was a finely crafted piece of machinery. This was in the mid '50s.

I enjoy reading Alice Brannigan's articles. Keep up the good work!

Zandor (a.k.a. Mark Urban)
(from America Online)

Just Like Dad?

Dear Editor:

I have been messing with all kinds of radio stuff for about 34 years. Now my little girl is 5 years old and she has begun playing with radios and computers. I enjoy playing with all of what I have, but just to see her wanting to know about the radios makes me feel great. Who knows, maybe she will be like her daddy?

Mindy and Jeff Seymour
Virginia



More Letters, Please?

Dear Editor:

I have always felt that using three or four letters in the mailbag section was not enough. So please, please use more letters. It's not taking away from *Pop'Comm* and it's not filler. It ADDS and is something that many of us read first. I do.

Trevor Fletcher
Edmonton, Alberta Canada

Dear Trevor:

Agreed. From now on you'll be seeing more reader's letters and opinions, along with shack photos and QSLs—that is provided we can convince folks to send more of them in!

Bad Apples Leave Bitter Taste

Dear Editor:

I would like to begin by stating that I very much appreciate *Popular Communications* and the service it provides to anyone who is interested in radio frequency communications. Two-way and shortwave radio enthusiasts are fortunate to have a forum like yours, and I do not intend to single out any particular group as the "bad guys."

When I became interested in radio in the early '70s, I promptly applied for and received the then required FCC license for the Citizens Band. During my subsequent years at college, I drifted away from my hobby due to time constraints and health problems. Years later I returned to find the world of CB radio had changed drastically, to say the least. Foul-mouthed and obnoxious operators abounded at 27 MHz, so I proceeded to consider the Amateur Radio Service as a viable alternative.

My plan of action was to monitor the ham bands for a period of time to determine if I really wanted the "privileges" of that segment of the radio spectrum. Much to my dismay and disappointment, the more I listened, the less I liked what I heard. The Code-Free Technician program had just been approved, and it seemed like a good idea at first. I then realized that what had really happened was the restructuring of ham radio into a caste system. Now senior hams had a new whipping boy to go along with CBers and anyone else who didn't possess a string of call letters to go with their name.

I realize that there are a majority of people in amateur radio who are caring, fair-minded hobbyists who go out of their way to help new recruits and present a good image. Having said that, it must also

(Continued on page 62)

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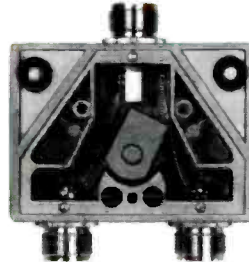
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Finding Broadcasting's True Roots

We Learn Where Today's Pioneer Stations Really Began!

BY ALICE BRANNIGAN

In the September issue, we wrote about how most modern-day AM stations claiming to have continued operating since radio's early era have experienced call letter, frequency, ownership, and even location changes since commencing operation in 1922. Some have changed so many times, we noted, that we wondered if those stations were fully justified in claiming a direct lineage from the 1922 station they claim as their original ancestor. On the other hand, we mentioned that it is standard broadcast industry practice to do this, and harm is neither intended nor done by the practice, although it can make things confusing for both historians and archivists.

To the rescue, our good friend, Jan D. Lowry, of Broadcast Pro-file. BP-F is a professional broadcast station research service. Jan saw our September issue and shared with us his state-by-state listing of all existing AM broadcasters claiming a lineage to 1922 (or earlier), showing the claimed starting date plus the station's claimed original 1922 call letters and location. Of course, there may well have been numerous other call letters in use between 1922 and the present, but that is not within the scope of this information.

We think this is a chart that radio history buff will find useful and worth keeping for future reference. Therefore, this month's column is devoted to presenting this invaluable data for our readers. Thanks to Jan for sending it along!

Broadcast Pro-File can prepare highly detailed histories of any American AM, FM, or TV broadcast station, past or present. Rates are quite reasonable, and the service is heavily used by broadcast stations, themselves. A complete catalog of BP-F services is \$1. Broadcast Pro-File has a new address: 28243 Royal Road, Castaic, CA 91384-3028.

Please pass along any old radio and wireless station listings and skeds, picture postcards, photos, QSL cards and letters (even good copies), news clippings, and personal memories to me here at *Pop'Comm*, 76 North Broadway, Hicksville, NY 11801. See you on the road to Radioville!

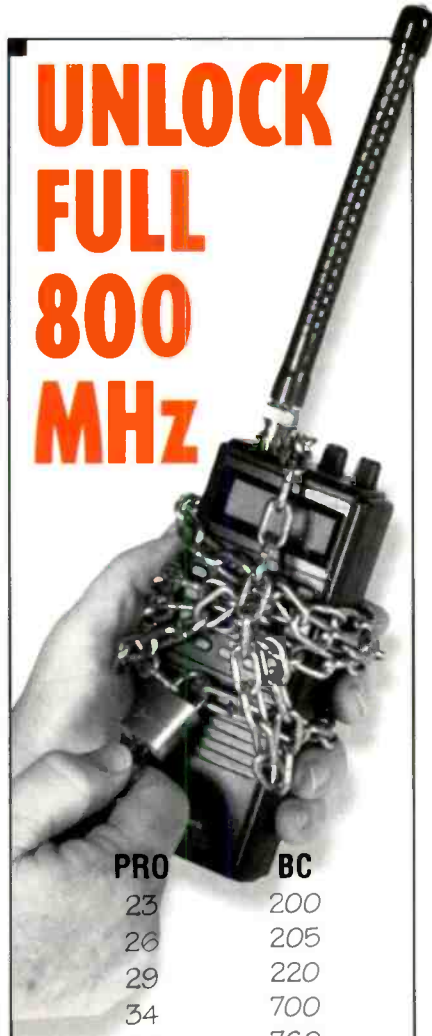
Existing Stations with 1922 Airdates

(Includes stations on in 1921 and before)

Present Call Letters	City	Airdate	Original Call Letters	City
WAPI	Birmingham, AL	Apr. 1922	WSY	Birmingham
KOY	Phoenix, AZ	9/6/22	KFCB	Phoenix
KTAR	Phoenix, AZ	6/21/22	KFAD	Phoenix
KVTO	Berkeley, CA	6/11/22	KRE	Berkeley
KMJ	Fresno, CA	3/23/22	KMJ	Fresno
KKHJ	Los Angeles, CA	4/13/22	KHJ	Los Angeles
KFI	Los Angeles, CA	4/16/22	KFI	Los Angeles
KWKW	Los Angeles, CA	4/23/22	KJS	Los Angeles
KDIA	Oakland, CA	3/10/22	KLS	Oakland
KNEW	Oakland, CA	5/3/22	KLX	Oakland
KFBK	Sacramento, CA	9/2/22	KFBK	Sacramento
KPOP	San Diego, CA	7/14/22	KFBC	San Diego
KCBS	San Francisco, CA	12/9/21	KQW	San Jose
KNBR	San Francisco, CA	4/17/22	KPO	San Francisco
KWG	Stockton, CA	12/7/21	KWG	Stockton
KLZ	Denver, CO	3/10/22	KLZ	Denver
WDRC	Hartford, CT	12/10/22	WPAJ	New Haven
WDEL	Wilmington, DE	7/22/22	WHAV	Wilmington
WDAE	Tampa, FL	5/17/22	WDAE	Tampa
WSB	Atlanta, GA	3/15/22	WSB	Atlanta
WMAZ	Macon, GA	10/30/22	WMAZ	Macon
KGU	Honolulu, HI	5/11/22	KGU	Honolulu
KIDO	Boise, ID	July 1922	KFAU	Boise
WCAZ	Carthage, IL	5/17/22	WCAZ	Quincy
WGN	Chicago, IL	5/19/22	WDAP	Chicago
WEJM	Chicago, IL	5/22/22	WAAF	Chicago
WMAQ	Chicago, IL	4/12/22	WGU	Chicago
WDZ	Decatur, IL	4/4/22	WDZ	Tuscola
WILL	Urbana, IL	Apr. 1922	WRM	Urbana
WTRC	Elhart, IN	Jul. 1922	WJAK	Stoddale, OH
WSBT	South Bend, IN	7/3/22	WGAZ	South Bend
WBAA	W. Lafayette, IN	4/5/22	WBAA	W. Lafayette
WOI	Ames, IA	4/28/22	WOI	Ames
WMT	Cedar Rapids, IA	7/30/22	WJAM	Cedar Rapids
KDMI	Cedar Rapids, IA	7/29/22	WKAA	Cedar Rapids
WSUI	Iowa City, IA	6/26/22	WHAA	Iowa City
KFH	Wichita, KS	5/26/22	WEAH	Wichita
WLAP	Lexington, KY	9/15/22	WLAP	Louisville
WHAS	Louisville, KY	7/18/22	WHAS	Louisville
WJBO	Baton Rouge, LA	Apr. 1922	WAAB	New Orleans
WWL	New Orleans, LA	3/31/22	WWL	New Orleans
KEEL	Shreveport, LA	June 1922	WGAQ	Shreveport
WCAO	Baltimore, MD	5/8/22	WCAO	Baltimore
WJFK	Baltimore, MD	6/8/22	WEAR	Baltimore
WBZ	Boston, MA	9/15/21	WBZ	Springfield

Present Call Letters	City	Airdate	Original Call Letters	City
WJR	Detroit, MI	5/4/22	WCX	Detroit
WWJ	Detroit, MI	10/13/21	WBL	Detroit
WKAR	E. Lansing, MI	8/18/22	WKAR	E. Lansing
WFDF	Flint, MI	5/25/22	WEAA	Flint
KUOM	Minneapolis, MN	1/13/22	WLB	Minneapolis
WCCO	Minneapolis, MN	9/1/22	WLAG	Minneapolis
KMBZ	Kansas City, MO	4/5/22	WPE	Kansas City
WDAF	Kansas City, MO	6/22/22	WDAF	Kansas City
WHB	Kansas City, MO	4/15/22	WHB	Kansas City
KSD	St. Louis, MO	3/14/22	KSD	St. Louis
WEW	St. Louis, MO	3/23/22	WEW	St. Louis
WRTH	St. Louis, MO	2/9/22	WEB	St. Louis
KEIN	Great Falls, MT	10/31/22	KFBB	Havre
WJAG	Norfolk, NE	7/26/22	WJAG	Norfolk
KCRO	Omaha, NE	2/14/22	WAAW	Omaha
WLNH	Laconia, NH	8/22/22	WKAV	Laconia
KKOB	Albuquerque, NM	4/5/22	KOB	State College
WBEN	Buffalo, NY	Sept. 1922	WMAK	Lockport
WGR	Buffalo, NY	5/22/22	WGR	Buffalo
WHCU	Ithaca, NY	May 1922	WEAI	Ithaca
WABC	New York, NY	10/1/21	WJZ	Newark, NJ
WADO	New York, NY	Feb. 1922	WAAM	Newark, NJ
WEVD	New York, NY	3/18/22	WHN	Ridgewood, NJ
WFAN	New York, NY	8/16/22	WDAM	New York, NY
WOR	New York, NY	2/22/22	WOR	Newark, NJ
WHAM	Rochester, NY	7/11/22	WHAM	Rochester
WGY	Schenectady, NY	2/4/22	WGY	Schenectady
WDCW	Syracuse, NY	Aug. 1922	WLAH	Syracuse
WHAZ	Troy, NY	9/11/22	WHAZ	Troy
WBT	Charlotte, NC	4/10/22	WBT	Charlotte
WDAY	Fargo, ND	5/22/22	WDAY	Fargo
WLW	Cincinnati, OH	3/22/22	WLW	Cincinnati
WHK	Cleveland, OH	3/5/22	WHK	Cleveland
WBNS	Columbus, OH	May 1922	WCAH	Columbus
WCOL	Columbus, OH	9/24/22	WMAN	Columbus
WOSU	Columbus, OH	6/3/22	WEAO	Columbus
WTVN	Columbus, OH	4/29/22	WBAV	Columbus
WWLS	Moore, OK	9/26/22	WNAD	Norman
WKY	Oklahoma City, OK	3/16/22	WKY	Oklahoma City
KOLL	Tulsa, OK	Dec. 1922	KFGD	Chickasha
KOAC	Corvallis, OR	12/7/22	KFDJ	Corvallis
KBBT	Portland, OR	Apr. 1922	KQP	Hood River
KOTK	Portland, OR	3/25/22	KGW	Portland
WSAJ	Grove City, PA	11/29/22	WSAJ	Grove City
WLPA	Lancaster, PA	June 1922	WGAL	Lancaster
KYW	Philadelphia, PA	11/11/21	KYW	Chicago, IL
WGMP	Philadelphia, PA	5/10/22	WCAU	Philadelphia
WDAS	Philadelphia, PA	Aug. 1922	WIAD	Ocean City, NJ
WFIL	Philadelphia, PA	3/17/22	WFI	Philadelphia
WHAT	Philadelphia, PA	Nov. 1922	WNAT	Philadelphia
WIP	Philadelphia, PA	3/17/22	WIP	Philadelphia
KDKA	Pittsburgh, PA	11/2/20	8XK	Wilkesburg
KQV	Pittsburgh, PA	1/19/22	KQV	Pittsburgh
WJAS	Pittsburgh, PA	12/2/22	WJAS	Pittsburgh
WTAE	Pittsburgh, PA	5/4/22	WCAE	Pittsburgh
WRWA	Reading, PA	Sept. 1922	WRWA	Reading
WBAX	Wiles-Barre, PA	5/15/22	WBAX	Wilkes-Barre
WHJJ	Providence, RI	9/6/22	WJAR	Providence
WLKW	Providence, RI	6/6/22	WEAN	Providence
WNAX	Yankton, SD	11/9/22	WNAX	Yankton
WIVK	Knoxville, TN	11/3/22	WNAV	Knoxville

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KGNC	Amarillo, TX	12/26/22	WQAC	Amarillo
WTAW	College Sta., TX	9/7/22	WTAW	College Sta.
KTCK	Dallas, TX	8/4/21	KVP	Dallas
KLIF	Dallas, TX	6/26/22	WFAA	Dallas
WBAP	Ft. Worth, TX	5/2/22	WBAP	Ft. Worth
KTRH	Houston, TX	3/22/22	WCM	Austin
KTSA	San Antonio, TX	5/9/22	WCAR	San Antonio
WOAI	San Antonio, TX	9/25/22	WOAI	San Antonio
WACO	Waco, TX	7/22/22	WJAD	Waco
KCNR	Salt Lake City, UT	8/28/22	KDYL	Salt Lake City
KSL	Salt Lake City, UT	4/21/22	KZN	Salt Lake City
WVMT	Burlington, VT	5/13/22	WCAX	Burlington
KRKO	Everett, WA	8/25/22	KFBL	Everett
KGY	Olympia, WA	4/15/22	KGY	Lacey, WA
KWSU	Pullman, WA	12/17/22	KFAE	Pullman
KJR	Seattle, WA	3/14/22	KJR	Seattle
KKDZ	Seattle, WA	5/14/22	KTW	Seattle
KMPS	Seattle, WA	May 1922	KDZE	Seattle
KAQQ	Spokane, WA	Mar. 1922	KHQ	Spokane
KSBN	Spokane, WA	Sept. 1922	KFIO	Spokane
KXLY	Spokane, WA	10/16/22	KFDC	Spokane
KKMO	Tacoma, WA	Apr. 1922	KMO	Tacoma
KIT	Yakima, WA	10/3/22	KFEC	Portland, OR
WLBL	Auburndale, WI	Dec. 1922	WPAH	Waupaca, WI
WHA	Madison, WI	1/13/22	WHA	Madison
WISN	Milwaukee, WI	7/22/22	WIAO	Milwaukee
WTMJ	Milwaukee, WI	May 1922	WCAY	Milwaukee

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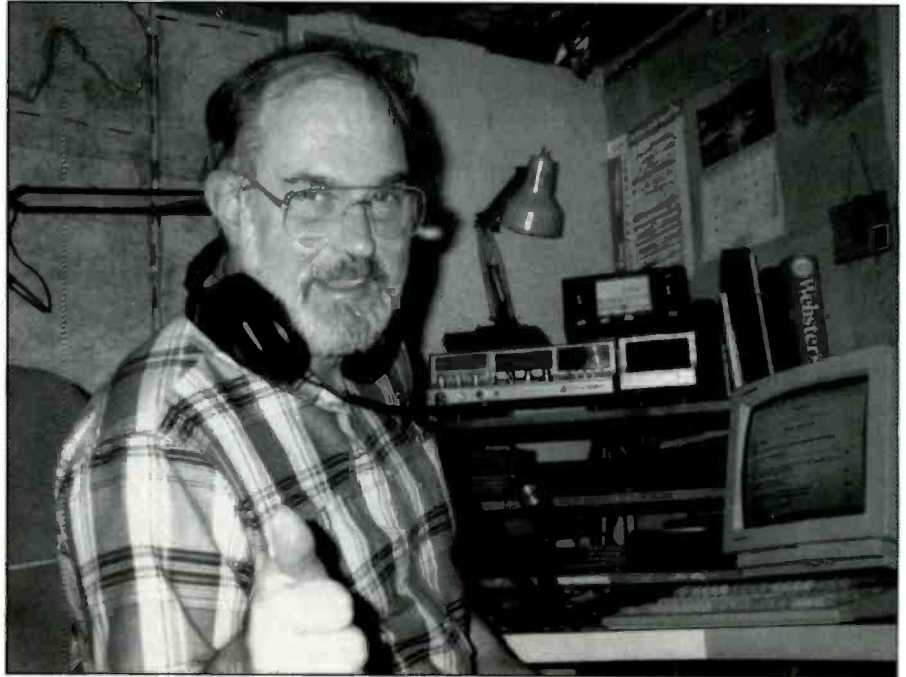
Class D CB: The Service That Technology Forgot

Unchanged for Years, it's Time to Transform CB . . .

By Bill Pasternak, WA6ITF

Over the years, the various radio services administered under FCC rule have advanced in technology in an orderly manner. Private Land Mobile began as a wideband FM service, advanced to narrowband (± 5 kHz deviation) FM and now appears headed toward even more spectrum-saving technology. The air radio service, on which all of us depend every time we set foot in a jetliner is still primarily AM, but there are plans in the works to go digital in the not-so-distant future. Even ham radio—the service that started it all with its ultra-wide band spark transmissions at the beginning of the century, has followed the trend toward narrow-band, spectrum-saving technology. Spark gave way to crystal-controlled continuous wave (CW). When voice came along, it was fairly wideband full carrier AM but it went to a newer technology when single sideband came along. Even cellular telephones, around for less than a decade, are getting ready to go from narrowband FM to all digital transmission technology. On the surface, it appears as if every radio service continues to advance in its technology, except one. 11 meter Class D CB.

From its inception to the moment that I write this, 11 meter CB has been promulgating the use of the oldest radiotelephone technology ever to grace the airwaves of mother Earth, full carrier, double sideband AM. I will grant you that to me, no communications medium seems to sound better than a strong, fully 100% modulated AM signal emanating from a receiver with good audio response into a high quality 10" or 12" loudspeaker. The kind of loudspeakers that were attached to radio sets that bore names like Hallicrafters, National and Hammetlund. But most of you reading this article are content to listen to partially modulated signals coming out of 2" to 3" speakers, poorly baffled, inside of a tiny radio. If



Ed's Mr. SSB himself, but will many other CBers be as anxious to jump on an all-SSB bandwagon?

you do plug in an external speaker, its usually one of those 4" plastic clad "communications speakers" that may sound no better than the one built into the radio! If you are adventurous and hook up a large speaker to your CB you soon realize that the distortion is horrid because the audio output system inside the CB is insufficient to properly drive it.

But full carrier AM is age old technology. It is also the root cause of much of the congestion found on 11 meters as anyone who listens with even the best communications receiver quickly finds out.

If you look at the rules governing 11 meter CB operation, you will note that full carrier, double sideband AM is not the only mode permitted. The rules also say that SSB is available to users of the 11 meter spectrum. Ads for SSB/AM-

compatible CB sets often eschew the virtues of these radios by telling the prospective buyer that he can "triple the number of channels" available to operate because he has 40 lower sideband, 40 upper sideband and 40 AM channels. Even with this advertising come-on that more than stretches the truth a bit (actually its an either/or situation, you either have up to 80 SSB channels or 40 AM channels. But you don't have both at the same time as the purveyors of these radios would have the buyer believe). SSB sales lag AM sales by miles. But why?

There are two reasons why this is true. The first is tradition. CB started AM; there are a lot of AM radios in use, so why change? Also there is the higher cost of purchasing a compatible SSB/AM CB set. While it almost assuredly costs less

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“... it appears as if every radio service continues to advance in its technology—except one...”

to manufacture an SSB/AM set (fewer costly iron core transformers needed when you do not employ high level AM modulation), the cost to the end purchaser is held higher, making SSB a “step up” from AM.

Why change? Because 11 meter CB is growing again. Its gaining favor with the U.S. populace in a way not seen since the “Gasoline Price Wars” of the mid '70s. Nobody knows for sure why people are again turning on and tuning in, but if you listen as I do you will hear new “old” voices as well as new “new” voices coming to 11 meters every day. Some are people who want to see if “their sets still work after two decades in the closet” while many others are people who cannot afford the luxury of a cellular telephone. Whatever the reason, 11 meters is again starting to burst at the seams with activity, and something needs to be done before we see a revival of the “channel wars” that serve nobody.



This neat mobile CB—a Cobra 29LTD WX Classic—is a fine rig, but AM-only. Cobra and others have SSB rigs, but they all have the AM mode too.

I have heard CB operators say that any change has to be to the world of digital. Some want to petition the FCC to permit some sort of digital voice transmission system for 11 meter use. These people have forgotten—or may not even know—that to the FCC, Class D CB is the “forgotten service.” They do not license its operators anymore. They probably do not monitor it any longer. They won't even handle consumer RFI complaints related to it and the only enforcement of the rules comes to those selling power amplifiers or other illegally modified gear. To put it bluntly, nothing ranks lower on the FCC's list of concerns than 11 meters and I doubt that the agency would consider the introduction of any new technology for CB. The answer to the spectrum crowding problem has to come from within the 11 meter community and the industry that supports it. That answer is the voluntary shift to SSB-only communications.

No, I am not suggesting that everyone immediately throw away their still very useful AM sets. I monitor 11 meters using a rather vintage set built by DeWald for the long defunct Lafayette Radio—one of the last units they made and a hybrid unit at that! As I am a listener and writer rather than an active participant, this, along with a Sangean ATS-803 (Realistic DX-440) are more than acceptable fare.

Any changeover to SSB-only operation must be gradual and downward compatible. That is to say that AM sets—even older ones like my Lafayette—will be

around for a long time. As such, people will want to use them until they are no longer serviceable or there is nobody else left on 11 meter AM to talk with. This latter statement is the key.

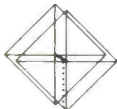
I believe that the industry that supports CB has got to stop looking at short range profit and view the big picture of the future. With it now possible to build an entire CB set on a single IC there is no reason to continue to manufacture and sell new AM only sets—except to keep the price of SSB high. If the manufacturing community were to decide that from January 1, 1998 only SSB/AM-compatible CB sets were to be manufactured and sold, and placed orders with their suppliers for only these type of sets, as is the case with all other consumer electronic items—prices would come tumbling down.

Easing the congestion on 11 meters over time is possible, but it will take a concerted effort from the political leaders in 11 meter CB and cooperation from the manufacturing and retail community to make it happen. No, you will not “triple” the number of channels available, but you will at least double the number as AM disappears and the more spectrum-efficient SSB mode—which permits two conversations per channel—and becomes the “mode of choice.”

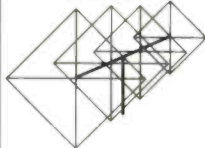
Editor's note: What's your opinion on Bill's ideas? In future issues of Pop-Comm we'll be presenting other views on CB radio. Stay tuned!

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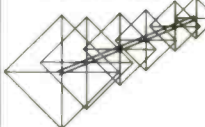
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Radio News

"... the Xplorer seems to do what it was designed to do very well..."

choose configuration options. To perform some actions you are required to push it down before turning it. Some settings involve pressing a button down while turning the knob, but the LCD display is used to indicate the option and the selected setting. Reviewing the stored memories is a similar process involving button pushing, and knob turning while looking at the LCD display. The top panel has a red Charge LED that illuminates when fast charging, and a yellow LOCK LED that lights when a signal has been locked onto. The audio jack is located beside the Tape remote jack, and there's also a DC power and 8 pin Data jack on the top panel. A standard BNC is provided along with a telescoping whip antenna for getting RF into the Xplorer.

I used many of my whip and rubber duck antennas with the Xplorer, and found that choosing an antenna tuned for the desired band does help peak performance in the corresponding frequency

range, but signals outside the range will continue to be received. I used the Xplorer for many hours straight prior to the low-battery indication displaying when the internal battery fell to 5.6 volts. The unit cut off very quickly afterwards. A rapid charge was started and it completed in 70 minutes after which the battery voltage displayed was 7.96. In the past week I have accidentally powered on the Xplorer a couple of times. Time may show that a push and hold, or perhaps a beep when cutting the unit on might prevent a low battery at an inopportune time. I used the Xplorer's Sweep mode to search for radio signals while at home, at work, and driving in the car. There were times when I expected to hear many signals and didn't hear *anything*. I had considered naming this review "Fishing for signals with the Xplorer," because I found both require patience and the proper location. These factors are critical to success or failure. The lack of signals may be due to an incorrect assumption on my part of what the available RF is, or how well the Xplorer should work.

Having never used a device like the Xplorer before, it's difficult for me to

measure it against anything other than my frequency counter, and in that case the Xplorer clearly has a greater range and nearly as quick lock on.

The ability to decode the CTCSS and DCS tones, as well as found DTMF tones adds a lot, and in my usage thus far it works quickly, and very well. The Xplorer is able to automatically log all, or every unique frequency found into memory. Memories can also be saved manually. A manual save will also capture the CTCSS, DCS, and DTMF info, but a drawback to the autosave mode is that while this information is displayed, it is not captured into memory. A VFO mode is provided and you can tune the Xplorer to a given frequency, and adjust the squelch for monitoring. The Xplorer also tunes to the saved frequency when reviewing memories, and lockouts.

My answer to the question, "How well does it work?" is that the Xplorer seems to do what it was designed to do very well, once the lockouts have been set, and assuming you are in a location that can provide the near field signals the Xplorer is designed to harvest. It is important that you be in relative proximity to the transmitters in order to hear them, with the distance from low-powered HT's limited to within a stone's throw.

"... I just tell them that it's a radio James Bond would be proud to use!"

The answer to the question "Was it worth the wait?" depends upon whether the person asking it is the type that has owned frequency counters, attends lots of events, works around radio devices, and monitors while mobile. If that describes you, you will probably find the Xplorer to be a really neat, very productive tool to add to your monitoring equipment. If on the other hand you are a shut-in, or stay at home type of person, you probably won't be able to fully appreciate what this baby can do. The question I have been asked the most in the last week while using the Xplorer in public around folks not familiar with the monitoring hobby has been "What is that? I just tell them that it's a radio James Bond would be proud to use!"

For more information on the Xplorer that retails for \$899, visit Opto's web site at <<http://www.optoelectronics.com>> or call them at 954-771-2050. The company takes orders at 1-800-327-5912. They are located at Optoelectronics, 5821 NE 14th Avenue, Ft. Lauderdale, FL 33334.

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Radio Resources

INTERESTING THOUGHTS AND IDEAS FOR ENJOYING THE HOBBY

Broadcasting on the Web!

One of the most interesting things on the World Wide Web these days is radio broadcasting! If you have not made the discovery, you should tune in on the web and listen to your favorite music format or even a local talk show. They are all there.

Broadcasting on the Internet is now something that is totally new. And, with the discovery that there is a broad, world-wide listening audience out there, radio stations are jumping on the web faster

“... you should tune in on the Web and listen to your favorite music format ...”

than you can tune them in. My first discovery came when I was listening to a radio station and heard the DJ play a song as requested by a “Web listener.” I wanted to know more about this, and it took very little checking to discover that there really were radio stations broadcasting on the World Wide Web.

What You Need

To listen to “Web radio”, you need to know a few things. The first thing is where to go. *That* part was easy. The Web site that I use more than any other is <http://www.radiotv.com>.

Radio broadcasting on the Web also requires three more things to be enjoyed. Naturally, you need a modern computer with a sound card. You also need a modem that is at a minimum 14.4, although a 28.8 later edition works far better. Finally, if you are planning to do much listening, you need a devoted Internet service. Going through services like America Online or CompuServe can get very expensive because you are paying by the hour for Web access. I signed up for one of the local access servers that gives me unlimited Web time for \$19.95 a month.

When I saw the long list of radio stations that were available just by the click of the mouse, I couldn't believe I had been totally unaware of this exciting service on



the net. You can find the radio stations listed at the Web address mentioned above by format. Rock, country, easy listening, adult contemporary, jazz, classical, religious, sports, and talk radio are all there for the single click of your mouse.

You also need an audio program to listen. There are two formats that are used. RealAudio and StreamWorks are the two formats listed. The RealAudio software can be downloaded for free at the <http://www.radiotv.com> site. This format seems to be the one used by most of the stations. StreamWorks can be found at <http://www.xingtech.com>, if also desired. You need to download and install the software before you “tune in” to the Web stations.

The sites provide you with simple, easy-to-follow instructions on downloading and installing the software. I found it easy to tune in and listen while also working another Windows program. Of course, with the Web broadcasting to your computer sound system, you can't use your modem for other purposes, but you can easily run one or more Windows programs while enjoying the sounds of Web radio. A version of Windows 3.1 or

Windows 95 is required if you are using a MS DOS-type computer along with the modems that I mentioned above. Also, when downloading RealAudio, remember to pick the version of the program that matches the speed of your modem. There are different versions for 14.4 and 28.8 speed modems.

Initially, when I turned into my first Web radio station, I expected normal stereo sound. This is not the case—not yet anyway! Web radio sounds like short-wave on my computer. Although I am using a good sound system, and I am connected to a dedicated Internet service,

“This service is just starting to break, and you can bet your modem that it will improve immensely in the months and years ahead”

there are still pops and clicks as the sounds make their way to your speakers. Keeping in mind that Web radio listening is new, and that modem speeds will certainly increase in the near future, I am still impressed that I can sit at my computer



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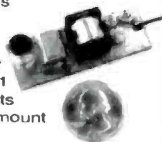
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and listen to Virgin FM Radio 105.8 MHz in London!

This service is just starting to break, and you can bet your modem that it will improve immensely in the months and years ahead. Radio stations are signing up for Web broadcasting at a fantastic rate. Here is just a sample of some of the radio stations you will find at the <radiotv.com> site address:

RealAudio Format

Alternative Rock:

KLSU FM, 91.1, Baton Rouge, LA
KDGE FM, 94.5, Dallas, TX
KOME FM, 98.5, San Jose, CA
XHRM FM, 92.5, Tijuana, Mexico
XETRA FM, 91.1, Tijuana, Mexico
KUSF FM, 90.3, San Francisco, CA
WRLT FM, 100.1, Nashville, TN
KKDA FM, 104.5, Dallas, TX

Rock:

Virgin Radio FM, 105.5 MHz, London, England
CILQ FM, 107.1, Toronto, Canada
CKUA FM, 97.3, Calgary, Canada
KICK AM, 1269, Sydney, Australia (Rock, country, and blues)
FM 104 Select, Hong Kong, Taiwan (Metro Broadcast)
WVX FM, 103.1 / WKTA AM 1330 Chicago, Illinois
JOFV FM, 80.2, Osaka, Japan
Netradio, Copenhagen, Denmark
Radio Padova, Padova, Italy
The Radio Channel, Sunland, California (Cable Radio Network)

You are already starting to get the picture, I'm sure. I have omitted many of the local USA stations that are listed on the site because I wanted you to get some idea about how vast the listing really is. I am also starting to get the impression that as this service expands, many of the so-called stations will not actually be radio broadcasting stations at all. You can expect to see many "broadcasters" actually "broadcasting" only on the Web. Also, at this point I might also mention that many of the stations broadcast either in 14.4 or 28.8. The faster 28.8 modem provides much better reception and a better selection of stations.

International Stations, Too!

Here are some of the international stations found on the <<http://www.radiotv.com>> site:

2FM, Dublin, Ireland—(Top 40)

"... radio stations are jumping on the Web faster than you can tune them in"

FM 98.3, Belo, Horizonte, Brazil—(Top 40)

Bandit FM, 105.5, Stockholm, Sweden (Alternative Rock)

KISS Hady FM, 88.3, Stefamikova, Czech Republic—(Top 40)

Radio Comercial, Lisboa, Portugal—(New & Talk)

Radio Tango, FM 99.3, Oslo, Norway—(Alternative Rock)

Radio Zurisee, Rapperswil, Switzerland—(Cusee-Me)—(News, Religion and Music)

RDS Radio Dimensione, Via della Pisona, Italy—(Talk & Rock format)

When you visit the <radiotv.com> site, you will also see that there are news services and television stations there for the visiting. These all require additional software, however, there are easy to follow directions to help you finding and install the software.

Talk radio is really big on the Web, and you will find a considerable list of talk and sports radio stations that are there for your selection. With initial costs at less than \$10,000, you can expect to see thousands of radio stations on the Web very soon, I would think! This market is just too good to pass up.

I also was delighted to discover that alternative radio broadcasting services are also making their programming available. Such services as the American Independent Network, offering U.S. fishing news, and All India Internet Radio are there plus many, many others. Many stations offer the views of their DJ and the actual studio, updated every minute.

This service is so new and exciting that you can expect a follow-up article in this column very soon. I trust you will visit the <<http://www.radiotv.com>> site soon, update your modem, and be ready for the next exciting article on this subject.

The stations mentioned in this article are devoted to the RealAudio format. StreamWorks Radio also offers an extensive listing on the site. It is my suggestion that you pick RealAudio first. The software is free, easy to obtain, and works easily with most sound boards. StreamWorks offers better listening from what I have seen, however, until you get familiar with Internet radio, RealAudio offers a good starting place. Good luck and exciting listening!

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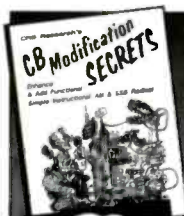
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How I Got Started

Carl Lawler Shares His Experience with Shortwave

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

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

The person whose entry is selected will receive a one-year gift subscription (or



"I've read Pop'Comm since the very first issue . . ."

one-year subscription extension) to *Popular Communications*. Address all entries to: How I Got Started, *Popular Communications*, 76 North Broadway, Hicksville, NY 11801-2909, or e-mail to <popularcom@aol.com>. If you e-mail your entry, please let us know if you're sending a photo.

Our November Winner

This month's winner resides in Castro Valley, California and says he has read every issue of *Popular Communications*!

"My interest in radio started in the 1960s. My father's best friend was an Advanced class ham. I was very impressed with the many stations he could receive from all around the world. One Christmas my father surprised me with my very own shortwave radio—an old used Hallicrafters S-38D. It wasn't one of those high-class rigs, but I was thrilled with it, anyway. Even using a short 12-foot wire

antenna, I could hear stations like RSA, HCJB and Radio Netherlands.

I also did a short stint with a pair of 100mW walkie-talkies; they were good for about 150 feet—that's with fresh batteries. It wasn't long before I took an interest in public service radio. My first receiver was a 9 V powered handheld, which was tunable from about 144 to 174 MHz. It didn't really matter anyway, because the radio's performance was so poor, the only thing I could receive was my local police department.

"One Christmas my father surprised me with my very own shortwave radio—an old used Hallicrafters S-38D"

Over the years my interest in monitoring comes and goes, but at least now I have digital radios! Finding the exact frequency I want isn't a hit or miss deal. I've read *Pop'Comm* since the very first issue and hope you continue to publish it for many years to come. ■

Reader Survey, November 1996

This month we'd like to know more about you to help us give you a better magazine. Remember, each month we'll be choosing one respondent at random to win a free one year subscription to *Popular Communications*, or a free one year subscription extension. It could be YOU, so be sure to use the attached Reader Service Card today! Remember, circle all numbers that apply to you in each category.

1. Please tell us about your educational level:

- Some high school Circle no. 30
- High school graduate Circle no. 31
- Two years of college Circle no. 32
- Two-four years of college Circle no. 33
- Four years or more college Circle no. 34

2. Please tell us about your work:

- I'm retired Circle no. 35
- Homemaker Circle no. 36
- Full-time student Circle no. 37
- Professional, upper management Circle no. 38
- Professional, middle management Circle no. 39
- Professional, some experience Circle no. 40
- Professional, entry level Circle no. 41
- High-tech professional Circle no. 42
- Sales or retail Circle no. 43
- Medical/dental Circle no. 44
- Government employee Circle no. 45
- Public safety Circle no. 46

3. Please tell us about your computer usage:

- I own a personal computer Circle no. 47
- I'm planning on buying one Circle no. 48
- I have NO plans to buy or use a computer Circle no. 49
- In addition to a PC, I also own a laptop Circle no. 50
- I use a computer in conjunction with the radio hobby Circle no. 51

4. If you actively use a computer in conjunction with the radio hobby, please indicate which activities your computer helps you do:

- Controlling radio(s) Circle no. 52
- Controlling antenna(s) Circle no. 53
- Logging Circle no. 54
- Ham radio (packet, satellite, EME tracking) Circle no. 55

5. During a typical week, I devote the following time to the radio hobby:

- Every day/night, more than five hours Circle no. 56
- Every day/night, two-five hours Circle no. 57
- Every day/night, about two hours Circle no. 58
- Every day/night, less than two hours Circle no. 59
- Mostly every evening, a couple of hours Circle no. 60
- Less than a couple of hours a week Circle no. 61
- An hour or so, three to five days a week Circle no. 62
- An hour or so, two days a week Circle no. 63
- An hour or so, once a week Circle no. 64

Thanks again for your participation. Next month we'll have another chance for you to win a free subscription to *Pop'Comm* and, a chance for you to help us understand YOU even better. ■

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The Pirate's Den

BY EDWARD TEACH

FOCUS ON FREE RADIO BROADCASTING

It's Not Just Weird, It's Beyond Weird

The pirate radio action continues apace. Let's get right to it. Weird Al Radio was picked up by Jeffrey Ryan in Pennsylvania on 6955 USB at 0255 to 0300 "broadcasting from Weird Al's home somewhere in the U.S. and playing Weird Al bits. No address heard.

Free Hope Experience was another of Ryan's logs, heard on 6955 USB from 0340 to 0401 and announcing the Blue Ridge Summit address. Kenny Love in South Carolina caught this one in a QSO with Mr. Spook of KAOS at 0231 asking about "Joe Momma." He also told KAOS he was coming on the cable system.

Love picked up KAOS on 6955 USB at 0204 and on another occasion at 0233.

Another catch was Radio Doomsday on 6955 at 0130 with Pink Floyd.

Dick Pearce in Vermont heard Let's Kill JTA Radio on 6955 USB at 0032 and again at 2307 with the same program.

Jerry Coatsworth in Ontario had Radio Zebulon from Holland for a couple of minutes at 2348 with mention of a guerrilla pill and a post office box in Holland.

CRST was another Coatsworth log, on 6955 at 0354 with poor signals. Only Psycho Chicken was heard.

Coatsworth had Radio Double Vision on 6955 USB at 1714 with concert music by Foreigner and off at 1715 with no ID.

Ryan found Up Your Radio on 6955 at 1700 to 1722 including a mention of the Blue Ridge address. Coatsworth had it (as "Up Your Radio Shortwave") on 6955 at 1210 to 1225. The announcer gave his name as "Woody B. Serious."

Another from Ryan was Radio Free on 6955 at 1825 to 1901. They didn't give an address but did make clear that the station name was simply "Radio Free."

Pearce caught Outlaw Radio on 6955 at 0135 with what Dick describes as "adult entertainment for sure." ID as "This is Outlaw Radio and I'm naked." Then a bit on Bill and Hillary and other items, fake commercial for adult products. Off with air raid siren.

Radio Free Speech was another Pearce logging, on 6955.1 at 2105 with



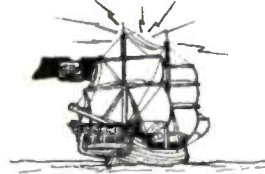
RADIO FREE SPEECH NEWS

Volume 2 - Issue 13 Making the airwaves Free for all

What now FCC?

Straddled by budget cuts that have demoralized and reduced staff, the FCC is starting to focus on the bigger picture and begin to develop policies and plans for the new Telecommunications bill that Congress passed earlier this year. The plan to close numerous field offices is still underway and it seems irreversible. The plan will be to have an FCC Field representative in what used to be the Field Offices territory that will be "on call" from the Laurel Monitoring office by way of a 800 number, that the public will call, when they have interference problems. What remains to be determined is who will be in the field and how they will prioritize calls to the toll free number. Since June of 1995, the FCC has been spending more time going after people who tie up the Maritime emergency channel 156.800 and the aircraft emergency 121.5 and 243.0 and spending almost no time chasing low power pirate broadcasters who interfere with no one. Operators should be cautious, as the Commission may try to make a last minute plea for funding by doing big media husts of frequent pirates, to justify an increase in their budget. 1996 is shaping up to be a major pirate listening year with the only bust reported so far, being an FM pirate in New York City, who received a "Cease and Desist" order from Judas Mansbach. Pirate listeners. "Are you ready to Rumble?"

PIRATE RADIO



Winterfest a Pirate Success

The 1996 Winterfest gathering in Kulpville, PA was great. Seen in attendance were; Bill O. Rights, Mr. Blue Sky, Phil Musik, Dick Pistek, Pancho Villa, Voice of Juliet, Howard Lyon of Voice of Oz, George Zeller, Andy Yoder and lots of Pirate radio listeners and ACE members attended and had a ball. The 1997 Winterfest - March 13-16

Support the ACE & Pirate Pages

There are only two publications that take Pirate Radio listening seriously. The ACE and the Pirate Pages. Radio Free Speech supports both and encourage's listeners who want the most up to date information available to subscribe and send in loggings. Here are the addresses for both.

The ACE Newsletter
P.O. Box 11201
Shawnee Mission, KS 66207
1-year for \$20.00

The Pirate Pages
P.O. Box 109
Blue Ridge Summit, PA 17214
1-year for \$14.00

"Protection of Free Speech should never be entrusted to the government, only the people are the true protectors"
Bill O. Rights - 1992

Radio Free Speech Staff
Station Manager-Bill O. Rights
Editorial Director-Earl Pitts
Tech Editor-Bob the Blade
News Editor-Farley Q. Fjnrnk
Chief Engineer-Sparky Nutz
Radio Free Speech
P.O. Box 452-Wellsville, NY 14895

Pirate Shortwave

Radio Free Speech

In addition to a QSL, reporters to Radio Free Speech get a copy of the station's newsletter.

"a special RFS bumper sticker" program. They aired some kind of pen parody and talked about NASWA carrying pirate news. Signed off with the traditional Star Spangled Banner. Ryan had them at 1913 to 1955 giving both the Wellsville and Blue Ridge Summit addresses, "Elvis

from the Radio Free Speech One Chopper," commercial skits and Earl Pitts with a beer commentary. Coatsworth found them at 1951 with a conversation with Elvis.

Dick heard North Jersey Coast Radio on 6954.7 at 2355, mentioning they were

reviewing "some of Donovan's bigger hits" and that they were broadcasting from their "clandestine location next to Criterion Candy on the boardwalk at Asbury Park." The announcer asked listeners to call in with their views on nude beaches and sunbathing.

Coatsworth had **Cell Phone Radio** on **13901** at 1914 with conversations between a male and female, with the woman sounding agitated.

Jerry also had **The Fox** on **6956** at 2118 to 2248 with music "Loves Me Like a Rock" and mentions of Bucky Beaver, Lady Diode and Howard Lyon.

He found **Up Against the Wall Radio** on **6955 USB** at 2113 to 2149 sign off and featuring an EBS segment and a Rush Limbaugh bit.

Cat in the Hat Radio was another Coatsworth pick up, heard on **6956 USB** at 0053 to 0127 with a pirate song and a Dr. Zeuss story.

Ryan caught **K-9 Radio** on **6955** at 1901 to 1913 with a very poor signal and no address announced.

Orson Wells Radio was logged by Coatsworth on **6956.7**, opening with "This

is Orson Wells Radio testing" and a Wells-narrated story referring to a man driving around in a 1940 Buick and being harassed by a hitchhiker.

Dick Pearce heard **Radio Free Salvation** on **6955.1 USB** with gospel-type songs, then a sermon asking the question "what are our children doing on the Internet?" followed by the song "Hallelujah" and close.

UATWR was picked up by Pearce on **6955 USB** at 0025 with ID, address, "Legend of a Mind" by the Moody Blues repeated for an hour.

Montana Audio Relay Service was another heard by Pearce, on **6955 USB** at 0032 with a couple of Spike Jones tunes, other comedy bits, urged people to move out of the city to Montana. Some unusual Montana town names were read. Another logging was made at 2307.

Radio One was heard by Pearce on **6955** at 2207 with oldies by the Beach Boys, Herman's Hermits, Neil Sedaka, the Association and a few others. Also a talk about Phil Spectre and a mention that "Radio One is just for fun."

Coatsworth had **Alternative Pirate**

Radio on **6955 USB** at 0353 to 0304 with "Girls Wanna Have Fun" by Weird Al. Also "Tequila." Reception reports are to be left in a (online?) news group.

WARR Radio was noted by Jerry on **6955** at 0130 to 0143 close featuring rock music and an announcer trying to sound like a pirate.

Radio Two was another Coatsworth log, on **6955 USB** at 0114 to 0134 close with a program of Canadian music.

WPN was heard by Jerry on **6955 USB** at 0134 mentioning Box 605.

Pearce had a tentative **Radio Marabu** on **6954.76** at 2340 with a mention of the Wuppertal address, a "rappish" tune and the song "Celebration."

KOX Radio was heard by Dick on **6955 USB** at 0022 but very weak. Also what may have been this one was noted on another occasion at 2234 with a choo-choo train song, trumpet number and several instrumentals.

That'll do it for this time, gang. I really appreciate your log reports! Keep 'em coming. Let's get together again next month! (Congrats to Dick Pearce on getting his ham ticket!) ■

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Antennas & Things

SIMPLE ANTENNAS AND ACCESSORIES FOR SIGNAL IMPROVEMENT

The Low-Band "Tee-Tenna"

The lower end of the high frequency shortwave band is a big problem for most shortwave listeners because of the antennas required on those bands. On 160 meters (ham), 75/80 meters (ham), the tropical bands and even 41 meters, lengths can get huge. For example, a half wavelength dipole is about 65 feet long on 40 meters, 98.5 feet long on 4.75 MHz, 126 feet long on 75/80 meters, and 253 feet on 160 meters.

"The 30-some-odd element antenna was small enough for one man to lift, but when the wind hit it, the antenna became a hang glider"

Real estate isn't getting any cheaper, so buying a 40-acre or larger spread is probably not in the cards for most of us (including me), so that solution to the low frequency antenna problem is a non-starter (unless I win the Virginia lottery).

There is a Solution!

One solution to the problem is the Tee-antenna shown in Figure 1. This antenna uses two lengths of 300 ohm twin-lead to make a horizontal section ("A") and a vertical section ("B"). Note that this antenna looks superficially like a folded dipole, but it's shorter by about half than the folded dipole, and the conductors are continuous; rather than having the feedline drive the antenna in a balanced manner this antenna is unbalanced. Thus, this antenna is somewhat more related to the Marconi style, rather than the Hertzian style (of which, dipoles are examples).

The horizontal section length (in feet) is found from:

$$A_{\text{feet}} = \frac{270}{F_{\text{MHz}}}$$

While the vertical section is found from:

$$B_{\text{feet}} = \frac{(270)(V)}{F_{\text{MHz}}}$$

Where: A and B are the lengths in feet, F_{MHz} is the frequency in megahertz, and V is the velocity factor of the twin-lead transmission line (typically 0.82 for television antenna style twin-lead).

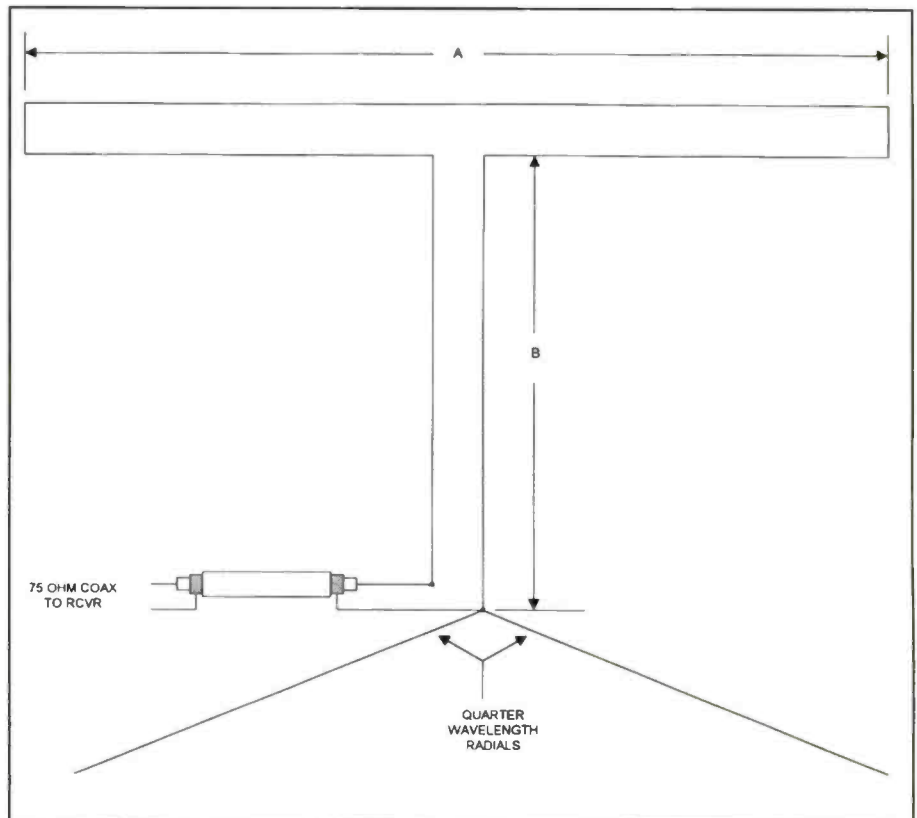
Examples of the antenna lengths are shown below:

FREQUENCY	A	B
7200 kHz	37.5'	30.75'
4750 kHz	56.85'	46.6'
5500 kHz	49.1'	40.25'
6500 kHz	41.5'	34'

3750 kHz	72'	59'
1850 kHz	146'	120'
1000 kHz	270'	221'

Note that the Tee-Tenna is a continuous loop. This means that the coaxial cable is connected with the shield to one conductor of the "B" section and the center conductor to the other conductor of the "B" section. The two conductors of the "B" section are connected to a cut at the middle of one conductor of the "A" section. The two conductors of the "A" section are connected together at each end of the antenna. If you connect a DC ohmmeter to the feedpoint of this antenna you should show a short-circuit.

This antenna doesn't work too well if the ground is poor. In this respect it shows its relationship to the Marconi random length wire antenna. A "good ground" is



The Low-Band "Tee-Tenna"

"Real estate isn't getting any cheaper, so buying a 40-acre or larger spread is probably not in the cards for most of us . . ."

absolutely essential to bring out the best in this antenna. That means using either quarter wavelength radials, or an eight-foot ground rod pounded into the ground. I personally prefer to use both the ground rod and the quarter wavelength radials. That's not a matter of overkill, but based on experience.

Safety . . . Again

Pardon me for harping on safety again, but I am a bit of a "bug" on the subject. The reason I bring it up still again is that some people never seem to get the word. And failing to get the word in this case can do you severe damage, including killing you. I was triggered into this discussion last week when a question arrived in my e-mailbox (see below for address). Sighhhh! The questioner asked if he could safely toss an insulated wire over the power line to get it to an "ideal" installation location. My answer is simple . . . in a single word: HELLNO! That practice can and WILL kill you, so please don't ever even think of doing it. The problem is that the insulation of both wires can cut into each other, and cause a fatal current to flow down the antenna wire. If you are lucky, then you will only be severely burned and shocked. The usual end of such an operation is the death of the person who touches the antenna wire. In one sad case in the 1960s, a father was killed by the electricity on the antenna wire, and his son was killed trying to save his dad.

Some rules to remember are:

1. NEVER toss an antenna wire over a power line. NEVER!
2. Don't erect the antenna where it can come in contact with a power line if it falls down (don't forget, wind-whipped anten-

"The questioner asked if he could safely toss an insulated wire over the power line to get it to an 'ideal' installation location"

na wires can go where they would not otherwise go).

3. Work using the "buddy system." If there is an emergency, then the "buddy" can summon an ambulance or help you directly. The buddy also means less strain on your back. Even relatively light-weight antennas have a huge sail area, and become one heckuva lot "heavier" in even light winds. I recall one guy installing a television antenna on the roof of a two-story home near Chesapeake Bay when a 15 knot wind came up. The 30-some-odd element antenna was small

enough for one man to lift, but when the wind hit it, the antenna became a hang glider. A broken leg, broken arm and a cracked pelvis was the reward for that particular bit of stupidity.

Connections

I can be reached via snail mail at P.O. Box 1099, Falls Church, VA, 22041, or via e-mail at <CARRJJ@AOL.COM>. Your comments and suggestions for our bi-monthly column are always appreciated. See you in January!



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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
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Scanning The Globe

BY J.T. WARD

MONITORING THE 30 TO 900 MHz "ACTION" BANDS

Scanning Becomes Extinct

WASHINGTON, D.C.—*The Federal Communications Commission announced today that effective July 1, 1997, the possession, manufacture, sale or importation of radio receiving equipment capable of receiving any radio transmission used by any national, state or local law enforcement agency; any cordless telephone transmission or cellular telephone transmission; or radio transmissions on any frequency licensed to business, commercial or non-profit enterprise will be illegal under federal law.*

Don't panic. The news release isn't real, and the government hasn't banned scanners, yet. But I'm beginning to think that such a scenario isn't too farfetched, given the sentiments of some folks I've run into lately.

The most recent incident occurred a few weeks ago while I was talking to a good friend that I hadn't seen for several years. We were bringing each other up to date on our lives, and I mentioned that I write this column each month. My friend reacted as though I'd said I deal heroin or launder money.

"My God, I can't believe they (meaning the government) let you give advice on how to listen to the cops and to telephone calls. Isn't that illegal?" he asked.

When I tried to explain that monitoring cordless and cellular phone calls is illegal, but that listening to the police and other government agencies is OK, my friend was incredulous.

"I thought they outlawed those scanners years ago. I can't see why anybody should be allowed to listen to the police, or to anyone else, really," he said.

I tried to convince him that the public has a right to monitor the actions of our public officials, including the police. And I cited some examples where scanner listeners had aided the police, but he remained unconvinced. I can't say that I was surprised. Even in my own ears the words rang hollow.

Let's face it folks. There is no pressing need for most of us to listen to the police, or to any other two-way radio user, for

"... the government hasn't banned scanners, yet"

that matter. We do it because it's fun and because it's interesting. And there's nothing wrong with that. I repeat, there's nothing wrong with that, and we shouldn't need any other reason to justify our hobby. The airwaves are (theoretically, anyway) public property, and we should be able to listen to any transmission within range of our receivers.

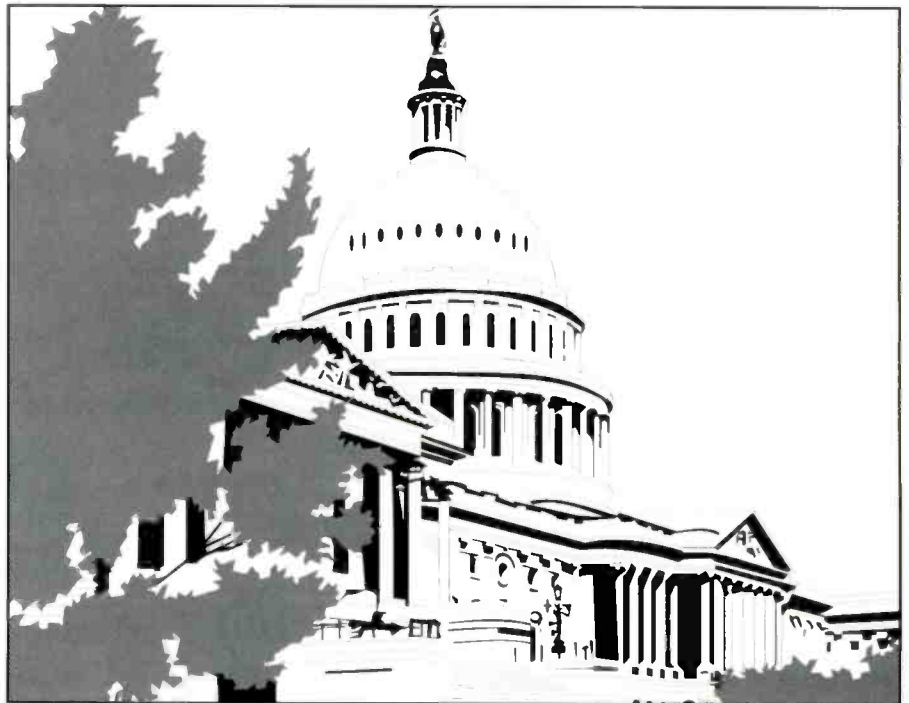
Scanner listening is no different than many other hobbies. Few folks have a legitimate need to own a rifle, shotgun or handgun. But hundreds of thousands of Americans enjoy hunting and target shooting. Now, private gun ownership is controversial, just as is scanner listening. Both can be enjoyable hobbies, and both have the potential for abuse. There are two big differences, however. First, the right to keep and bear arms is (arguably, to be sure) guaranteed by the Constitution

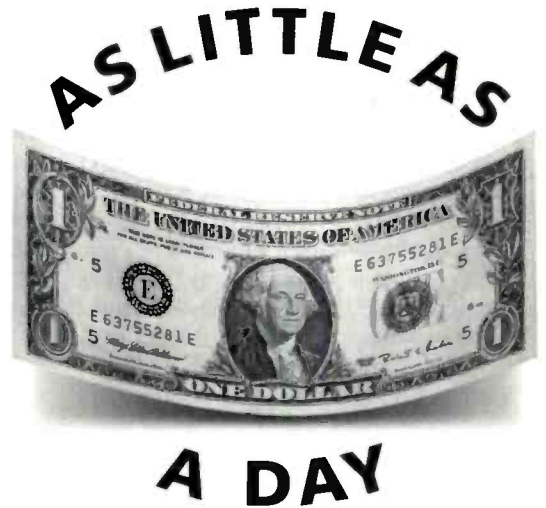
of the United States. Scanner owners have no such guarantee. And secondly, gun owners have a well-organized, well-financed lobby to fight for them in the halls of Congress. Scanner listeners don't have that, either.

Much of the money supporting the firearms lobbyists comes from firearms manufacturers. The companies are smart enough to realize that if guns are outlawed they're out of business.

Gun owners also have the National Rifle Association on their side. While the NRA sometimes reacts to proposals of reasonable gun regulation with a major jerk of its knee, the organization has done an excellent job of fighting the more onerous proposals over the years.

Scanner listeners, on the other hand, have relatively few champions. Certainly, Bob Grove, Tom Kneitel and a handful of others have tried to explode the myths about scanner listeners spread by cellular providers and certain communications equipment manufacturers. But their efforts, valiant as they are, have been





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"I tried to convince him that the public has a right to monitor the actions of our public officials . . ."

limited due to the lack of support from the industry and the radio hobby community. When the FCC first proposed blocking the cellular frequency range from scanners the American Radio Relay League, Uniden, Tandy and others were conspicuous in their silence. The law passed with little opposition.

Time for Action

I believe that it's time for scanner listeners, shortwave listeners and receiver manufacturers to unite under a common banner. If the powers-that-be at the ARRL have any vision, they will see that there is a tremendous pool of untapped revenue out here. If the ARRL created a new level of amateur radio operator certification for Communications Monitors—perhaps with a voluntary written competency test—they could potentially bring thousands of new, enthusiastic members into the organization.

The competency test would not be required, of course, to own a scanner or shortwave receiver. But it could become a point of pride among scanner and shortwave fans.

By becoming members of the ARRL, these scanner and shortwave listeners would contribute to the financial strength of the organization while at the same time being exposed to the pleasures of amateur radio through the ARRL's publications, and through contact with other ARRL members. I'm convinced that many of these new members would eventually qualify for more advanced ham ratings.

So, what would we get for our dues in joining the ARRL? How about an effective lobbying effort the next time the government moves to restrict our access to the airwaves? Perhaps, with enough support, we could convince regulators to increase the penalties for possessing a scanner during the commission of a felony, rather than restricting the rights of law-abiding citizens to own and listen to scanners and shortwave receivers.

"I believe that it's time for scanner listeners, shortwave listeners and receiver manufacturers to unite under a common banner"

Now, I'm usually the last one to ask for more regulations or fees. But I believe that self-regulation is better than imposed regulations, and perhaps by taking the lead now we can protect ourselves from future government intrusion. What do you think?

Reader Mail

Ryan J. McCarthy is looking for a scanner antenna which covers 25 to 1300 MHz and he's considering the MON-58 from Antenna Specialists. "What have you heard about this antenna, and how well does it hold up to the weather," Ryan asks? "We've gotten a couple of harsh winters here on Long Island in the past three years."

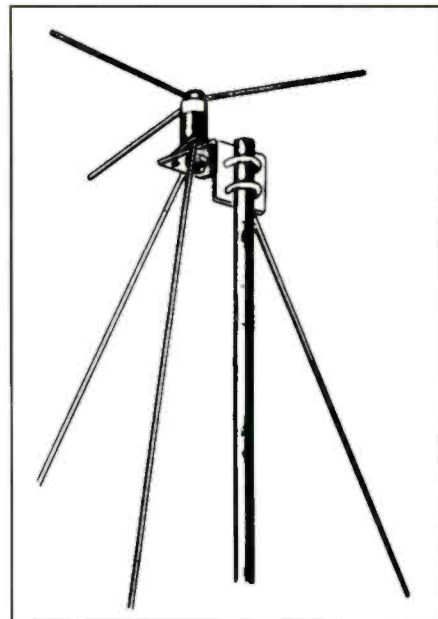
Ryan also said he's going to need about 50 feet of coax for his installation, and that he's considering Belden 9913. "I'm no doubt going to need something which is low loss in the higher (frequency ranges) since my local police department will be moving up to the 800MHz band soon," he said.

Ryan, while I have no experience with this antenna in particular, Antenna Specialists seems to have a good reputation for marketing quality products. You are wise to be considering a high-quality, low-loss coax cable such as the Belden for your installation. Unfortunately, too many radio hobbyists spend thousands of dollars on receivers, then scrimp on coax and end up wondering why their supposedly great new radio is deaf.

Perry Joseph in the "Show Me State" sent along this information about a Web Site and e-mail list server of interest to fans of the Realistic/Radio Shack PRO-2006 scanner. "There's a Web page dedicated to PRO-2006 enthusiasts run by Steve Hancock. It covers most of the add-ons and references to this venerable radio," Perry wrote.

"The site also includes quite a few links related to the scanning radio hobby. The Web address is: <HTTP://HOME.PTD.NET/~PRO2006>.

"Steve also sponsors an e-mail list which allows you to send and receive information with others who are interested in the PRO-2006 and other related matters. To join, send e-mail to <PRO2006@



The Antenna Specialist's MON-58 base scanner might be Ryan McCarthy's answer to his antenna needs. This wideband antenna is ideal for 800 MHz reception. (Courtesy Antenna Specialists)

PTD.NET> and put the words "JOIN 2006" in the subject line. Once you have joined, you can send e-mail to the address and it is broadcast to all the others on the e-mail list and vice versa. It's a great way to network with others who share your interests," he said.

Perry is the author of "Probe" scanner control software, developed exclusively for Optoelectronics' OptoScan 456 and 535 computer-to-scanner interfaces. Probe features include faster scanning speed, superior CTCSS/DCS tone control, exceptional bank management, a true dBASE engine, PerCon FCC data compatibility and a complete frequency and status display.

The latest feature, released with Version 2.0, is called "SmartScan™" which allows you to automatically follow fast breaking action. For example, you can designate the air emergency frequency 121.500 MHz as a key frequency. When it becomes active the scanner will exclusively scan just related frequencies, like the local tower, ground control, rescue squad, etc. Once the action settles down normal scanning resumes.

To receive more details on Probe scanner control software please write to DataFile Inc., P.O. Box 20111, St. Louis, MO, 63123, or e-mail Perry at <DataFile@genie.com>. In addition, be sure to check out next month's review of

the Probe in *Pop'Comm's* Computer Corner column!

Matthew Phillips of Seneca, South Carolina, is a reader of the Braille edition of *Popular Communications* magazine. Matthew wrote to say that every now and then his Radio Shack PRO-58 scanner picks up strange sounds similar to bad static. However, it often seems like his local police dispatcher or an officer is talking to the source of the static. Matthew wants to know what the source of the noise might be.

Boy, Matthew, diagnosing strange sounds without hearing them is one of the toughest tasks readers ask of me. Without hearing it, or without more detailed information, I can only make a couple of guesses. First, it may be a transmission that's just too weak for your scanner to receive properly. There's enough strength in the carrier to break the squelch, but not enough modulation to make a readable signal. The other likely guess is that the police are using a digital encryption system or scrambler. You would expect officers on both sides of the conversation to be scrambled, but who knows, stranger things have happened. Finally, you might be receiving an image of an out-of-band signal, particularly an aircraft transmission. I once had a PRO-2030 that was prone to aircraft images. Since aircraft transmit in the AM mode, and the images always showed up on a channel set for FM, the transmission was often filled with static and was unreadable. Good luck, and good listening.

Bob Phillips of Lanoka Harbor, N.J., sent in some interesting frequency info that showed up while he was doing a painstaking search for the State Troopers who patrol the Garden State Parkway.

"(The troopers) recently have moved off of VHF and onto the state's trunked public safety radio system," Bob wrote.

"The *Police Call* book gives you a ton of frequencies used by the troopers on the trunking system, but so many that you're lost trying to monitor the right ones for the parkway. I'd almost given up when I discovered the Parkway troopers seem to use three frequencies exclusively—855.212 MHz, 866.612 MHz and 868.512 MHz. These three are easily monitored if you live in the southern or central part of the state, but once above the Asbury Park area (about mile marker 100) you're out of range, so they must have others for the northern half." If anyone can help on these I'd really appreciate the feedback."

Thanks for the letter, Bob. If anyone can provide the New Jersey frequencies that you're looking for, we'll publish them here in the column.

Jon Morris of Lakeland, Florida noticed that I often refer to the Tampa Bay area when writing this column. "First of all, let me start off by saying that your magazine is the greatest. Unfortunately, I'm a scanner junkie, and half of my paycheck goes to buy the newest scanners that come out every year," Jon wrote.

"J.T., would I be wrong in assuming that you live somewhere in the Tampa Bay area here in Florida? I noticed that every other article or so has some of the local frequencies listed. Also, I know that law enforcement agencies routinely monitor Channel 9 on the CB, but I'd like to ask some of your readers who are in public safety what they think about the new GMRS Emergency Radio frequency (pros, cons, etc.). "Also, taking into account the obvious opportunities for abuse, how do they feel about commercial two-way radios legally modified (for reception only) to cover public safety frequencies?" he asked.

Jon monitors with a Motorola MX300 48-channel UHF radio, Bearcat 200XLT, 70XLT and 560XLT scanners, a Uniden Beartracker scanner and a Uniden 40-channel citizen's band radio. "Needless to say, I always stay on the good side of law enforcement in order to carry around this much gear in my car," Jon said.

Jon, no you're not wrong. I live in a suburb just east of Tampa. I hope the frequencies have been helpful. As for GMRS, I've never heard the topic discussed among law enforcement officers. Perhaps other readers can chime in here.

And regarding the use of commercial two-way radios to monitor public safety frequencies, I can't imagine too many police officers being very happy about it. But then, most cops that I've met don't much like scanners in the hands of the public, either.

A Fond Farewell

It was a year ago this month that I took over this column. It's now my pleasure to turn this space back over to Chuck Gysi's able stewardship. Chuck wrote this column for 10 years, and like you, I'll look forward to seeing what he has to say in the future.

Thanks for the support you've given me, and for all the kind comments in your letters and e-mail. I've enjoyed the interaction with you, the readers, immensely.

I won't be entirely absent from *Pop'Comm's* pages. New editor Harold Ort has already asked me to do several feature stories for future issues, and I'm looking forward to getting started.

Please send your letters to Chuck Gysi, Scanning The Globe, *Popular Communications*, 76 North Broadway, Hicksville, NY 11801. To contact Chuck via the Internet, send your e-mail to him at <SCAN911@aol.com>. ■

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The Radio Connection

BY PETER J. BERTINI

A LOOK BEHIND THE DIALS

The Fine Art of Radio Restoration

There's a fine line between an antique radio, and what might be considered a vintage radio. In future columns we will learn how to troubleshoot, properly repair and align a variety of tube radios spanning from 1933 through the 1970s.

To get a 1970-vintage radio into shape, many technicians would do only what simple repairs and alignment are needed to get the radio operational. But, for a truly antique radio, those "simple" repairs can ruin the value of your set! I treat all tube radios as if they are an antique.

The Cardinal Rule of Restoration

Why would I consider a 1960s communications receiver to be an antique? Simple. Tube communication receivers are rapidly becoming the hot radio collectibles of the 1990s! The same rules that apply to antique radio restoration will soon apply to all tubed radios—even old CB or ham radios.

After the end of WWII many military radios were sold as surplus. Many radio amateur's first receiver or transmitter was a converted military radio. Unfortunately, many of these radios are now sought after by military radio collectors. Those extra panel holes and modifications added to make these surplus sets "air-worthy" by hams many years ago can detract from their worth as collectibles.

A radio collector looks at several things when evaluating the condition of a set. Most serious collectors have long passed the "collect-anything-old" phase, and have learned to be extremely selective, picking only the finest specimen of a set for their collections. (This usually happens to married collectors after getting console No. 3 and the duck knickknack stage, well illustrated in our photo). For a wood cased set, a good hard look at the condition of the veneers and finish are in order. Is the speaker grill cloth free of stains or tears, and is it original? (Big score points here!) Are all of the knobs there and original?

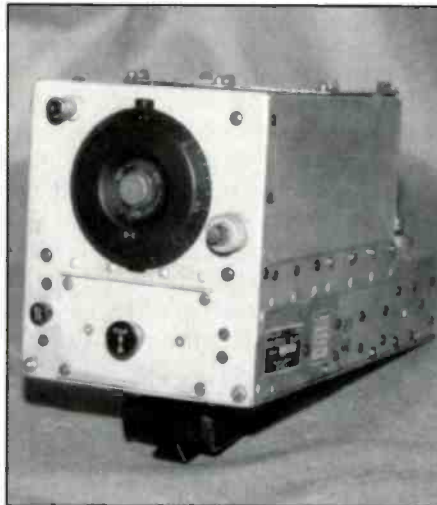


Photo 1. World War II aircraft receiver, the BC454E. Banks of these radios were remotely tuned via flexible shafts from remote locations in the aircraft to the radio operator position. Note there is no tuning knob. This model covers from three to six MHz, encompassing the 80 meter amateur radio band. A similar model covered the 40 meter band at 7 MHz. Other versions covered LF frequencies, and one model prized by collectors covers the American AM broadcast band. A small dynamotor (usually missing) mounts on the rear of the unit to provide high voltage DC for the six-tube set.

Next, a scan of the chassis is made. Is there rust? Has anything been changed to alter the original appearance of the chassis? Or, (gasp!) has some butcher removed or replaced the factory wet electrolytic cans with more modern ones?

What an old radio (communications receiver, antique, CB or ham radio) is worth, and what is worth collecting is a subject for future columns. At lot of it depends on your tastes and the size of your home! An extensive collection, boxed and stored away offers little enjoyment. So, if the bug bites, let me warn you to start slowly—just because something is old doesn't mean it has any great value! And, before you end up with a garage full of junk; take time to learn the field and find out exactly where your interests in old radios will peak! You can't collect

everything, and you should know the value of something before you buy it! To help you along the path, we will be visiting collectors, and reviewing guide books for radio collectors.

Refinishing wood or painted metal cabinets is beyond the scope of this column, as is wood veneer repair. I will sneak in a few hints and kinks as we go along, however. But avoiding the pitfalls of doing a chassis the wrong way isn't.

The cardinal rule of restoration is:

Do nothing that alters the outward appearance of the radio!

The older set, the more this rule applies. Most restorers agree that under the chassis is their domain, and what can't be seen is fair game. This is a matter of debate amongst purists.

Getting Started: AC/DC Sets

Pete's radio tip: Always fully mesh the tuning capacitor before removing the chassis and while it is on the workbench! This will help avoid damaging those delicate rotor plates.

Let's start honing our technical and restoration skills by starting with two radios that are both very similar and yet worlds apart. One set we are going to tackle is the little Emerson bakelite set shown in the photo. These little sets are quite common, you should be able to find a similar one for under \$10 at a tag sale. This one is in good shape, the bakelite is shiny and not pitted and no cracks are visible. Perhaps you remember a similar radio tuned to Arthur Godfrey's radio show in mom's kitchen when you were growing up back in the 1950s? (Pete, Arthur Godfrey was my Mom's radio hero back then. On a quiet Saturday morning I can still hear his theme song. Those were the days! Ed.)

Then there's the S-38 a classic short-wave receiver, the original six-tube Hallicrafters S-38! Hallicrafters must have made a zillion of these little sets, they too are quite common and usually sell on today's market for about \$30 to \$75.

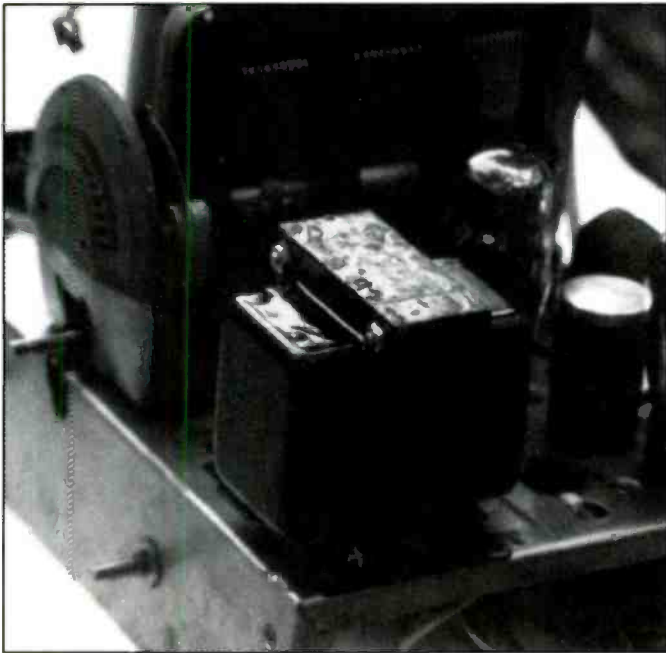


Photo 2. A restoration nightmare! Missing electrolytic can capacitors, and a bad power transformer! This photo shows an acceptable means of mounting a replacement power transformer.

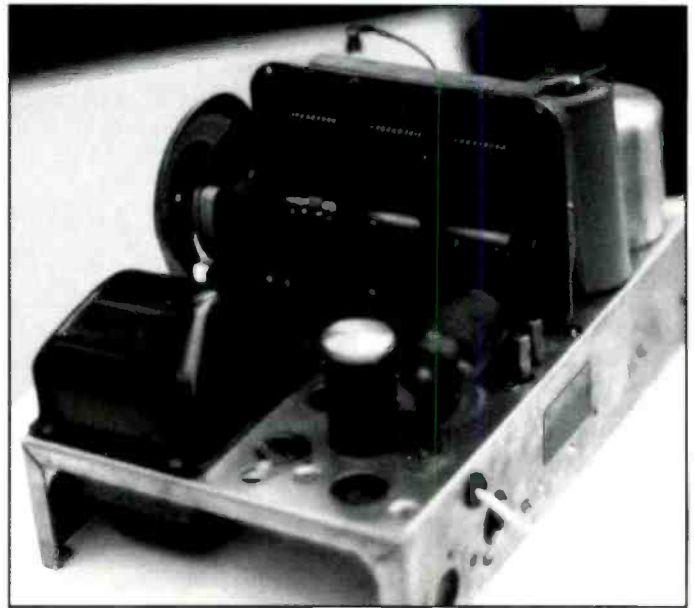


Photo 3. With a little more work, the transformer is modified to fit beneath the chassis, allowing the original Atwater Kent transformer cover to be used. This maintains the original appearance of the chassis. This chassis is from an Atwater Kent model 84 cathedral radio, very similar to the Atwater Kent model 80 cathedral shown in our premiere column.

Unfortunately, the S-38 never had much of a reputation as being a "performer." It wasn't particularly stable, sensitive or selective, and the small dial made reading the frequency at best a guess. Later models of the S-38 had only five tubes, and eventually Hallicrafters began producing models of the S-38 using a slide rule dial.

Power Line Safety

Now I have to cover some safety stuff that may seem boring and rather mundane. But, nevertheless this is an important topic and must be covered!

These two radios are common in that they are AC/DC radios. They operate direct from the power line, and do not use a transformer. The high voltage DC needed for the tube plate and screen supplies is developed directly from the power line. The tube filaments are strung in series (similar to those old-style Christmas tree lights) and run directly from the power line voltage. If one tube filament fails (opens) all the other tubes will go out.

The problem with these sets is that they can become (or always were!) a serious shock hazard! Being AC/DC sets, the line cord plug could be reversed in the socket to permit operation on DC power lines. If the radio lit, but didn't play, you had to reverse the line cord to permit the proper

polarity of DC to flow through the rectifier tube. The rectifier tube's purpose in these sets was to rectify AC line voltage to supply the DC potential for the tubes to operate; and when used on a DC line to only allow the proper polarity of DC to flow to the tube circuits when the line cord plug was in the proper orientation.

Some of these sets employed a "hot chassis." One side of the AC line cord was tied directly to the metal chassis! These sets relied on the plastic knobs used for the tuning and volume controls to protect the operator from receiving a shock! Remember that one side of the AC line is grounded. When you plugged in one of these radios you had a 50-50 chance of having a "hot chassis"—that is

a chassis live with the full AC line voltage potential! In some sets, plastic bushings were used on the chassis, allowing the metal screws used to hold the radio in the case to be insulated from the chassis. A cardboard back cover kept prying fingers from reaching the chassis. The photo shows the bottom of the Emerson set, a real safety horror show! One side of the AC line is connected to the off/on switch, the other side of the switch connects directly to the metal receiver chassis. Even worse, the metal mounting screws which hold the chassis in the cabinet are not insulated.

Servicing these radios can be a hazardous endeavor! Savvy service techs always used an "isolation transformer." The iso-

shoc RadioManager

Database: Europa 2 Browser

FREQUENCY: 10 203.00 Mode: RTTY L: 170 C: RT

Plan: Prg: Dgs: Tim: 09 16 0 Lnc: La: KW: 0.0

CA SA AU PA AS AF ME EU SH95 Lat: Date: 01/06/95

FACTOR: 3

Time	Station	ITU	Call	Mode	Start	End	Lat	Prng	Chms	Descrpt	Date
10281	00 POL ENB BRUSSELS	BEL	RTTY 1422.250	FE	POL 48Q	2502-94					
10281	20 FF CAYENNE	GUF	RFLG RTTY 629.299	F	ARD E3	03.05.95					
10283	00 ICRP GENEVA	SUI	HBEVVA RTTY 916	D	FI	FACTOR	01.06.95				
10283	00 ICRP PALE	BIH	RTTY 807	D	FI	FACTOR	02.06.95				
10283	00 ICRP PARIS	BIH	RTTY 916	D	FI	FACTOR	01.06.95				
10283	00 ICRP CADREB	MVW	RTTY 1140	D	FI	FACTOR	31.05.95				
10288	00 ICRP PARIS	F	RFXK RTTY 0.228	F	PS	330E	11.01.93				
10288	50 MFA BONN	D	LWAF RTTY 911	D	FE	ARD E	22.03.94				

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Photo 4. Emerson six-tube bakelite radio, probably dating from the early 1940s. The model number is missing. This radio illustrates a typical AC/DC radio from that era.



Photo 5. The Hallicrafters S-38 general coverage receiver covered from the AM broadcast band through 30 MHz in four tuning ranges. This early model featured a BFO (Beat Frequency Oscillator) for CW reception, and ANL (AntiNoise Limiting) for improved AM reception.

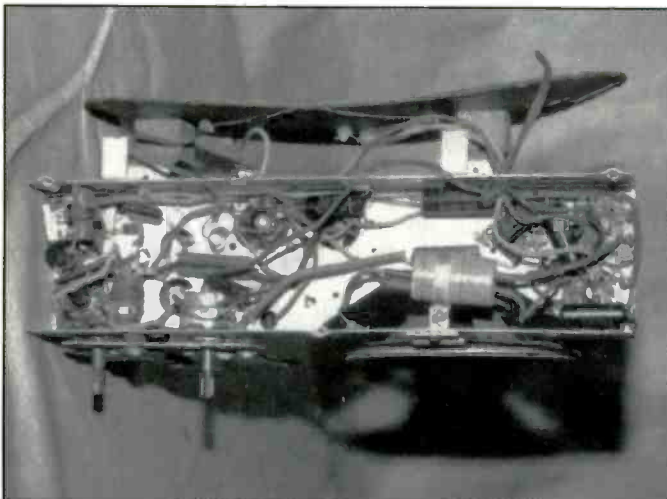


Photo 6. Underside of the Emerson radio chassis. The metal chassis is directly tied to one side of the AC line, and the metal mounting screws holding the chassis in the bakelite cabinet were also "hot" with AC voltage!

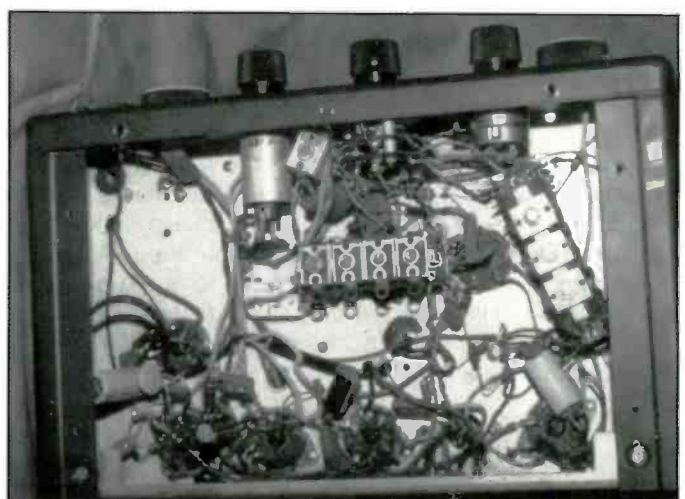


Photo 7. Underside view of the S-38 receiver with the bottom cover removed. This chassis is also tied to one side of the AC line. The metal cabinet is isolated from the "hot" chassis via insulating material. But, the failure of a paper capacitor could make the entire cabinet "hot" with AC voltage.

lation transformer took the 117 Vac line voltage and produced an output of 117 volts, but this voltage was isolated from the AC line ground. Thus, while dangerous voltages existed within the confines of the chassis, the service man was safe from receiving a shock even if he was standing on a damp floor and touching the chassis! It also allowed him to use grounded test equipment on the radio.

Another "trick" used in some AC/DC chassis was a floating ground. All ground returns were tied to common tie-lug point, including one side of the AC line. This floating ground point was coupled to the metal chassis via a fixed

capacitor. The idea was for the capacitor to "block" AC line voltage currents, or reduce them to an extremely low level, while RF (or radio energy) was effectively shunted to the metal chassis by the capacitor. This eliminated the need for special insulating hardware. The folly was that your safety relied solely on the integrity of an inexpensive and failure-prone wax paper capacitor.

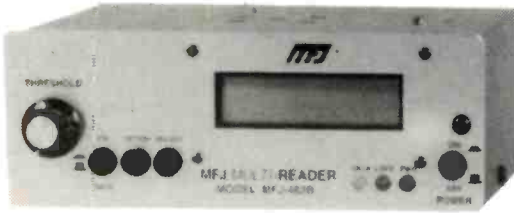
The Hallicrafters receiver uses a floating ground; its metal case isolation from the AC line is by a wax capacitor. The photo shows the underside of the S-38 chassis, after restoration. The chassis holding the components is tied to one side

of the AC line, and is isolated from the metal receiver cabinet by insulators. Instead of the old failure-prone and leaky wax paper capacitor used to bypass the AC line to the chassis, the receiver now uses a special capacitor rated for AC line service. The original cord has been replaced with one that has a polarized plug to prevent having a "hot" chassis.

We will cover these subjects in depth in next month's column! Till then, head for the attic or garage sale and drop me a line at The Radio Connection, *Popular Communications*, 76 North Broadway, Hicksville, NY 11801. Your photos are always welcome! ■

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MFJ-462B **\$169⁹⁵** Plug this self-contained MFJ MultiReader™ into your shortwave receiver's earphone jack.

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

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

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

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

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

Receives strong, clear signals from all over the world. 20dB attenuator, gain control, ON LED. Switch two receivers and aux. or active antenna. 6x3x5 in. remote has 54 inch whip, 50 ft. coax.

MFJ-1024 **\$129⁹⁵** MFJ-1312, \$12.95.

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MFJ-1020B **\$79⁹⁵** Rival outside long wires with this *tuned* indoor active antenna. "World Radio TV Handbook" says MFJ-1020 is a "fine value... fair price... best offering to date... performs very well indeed."

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Monitor Morse code from hams, military, commercial, aeronautical, diplomatic, maritime -- from all over the world -- Australia, Russia, Hong Kong, Japan, Egypt, Norway, Israel, Africa.

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

Printer cable, MFJ-5412, \$9.95.

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

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

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

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

It's easy to read -- the 2 line 16 character LCD display with contrast adjustment is mounted on a sloped front panel for easy reading.

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

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

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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.

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Pop'Comm's World Band Tuning Tips

November 1996

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 UT equals 7 pm EST, 6 pm CST, 4 pm PST.

UTC	Freq.	Station/Country	Notes	UTC	Freq.	Station/Country	Notes
0000	5850	WVHA, Maine		0200	9475	R. Cairo, Egypt	
0000	5895	Croatian Radio		0200	9735	R. Nacional Paraguay	SS
0000	5995	Voice of America		0200	11710	RAE, Argentina	
0000	6020	R. Netherlands via Bonaire		0200v	17770	UAE Radio, Abu Dhabi	sign on RR
0000	6155	R. Japan via BBC	EE/JJ	0230	13605	Golos Rossii, Russia	
0000	9700	R. Bulgaria		0245	9870	R. Budapest, Hungary	
0000	13750	All India Radio		0250	9605	Vatican Radio	
0000	15345	RAE, Argentina	SS	0300	3210	R. Exterior de Espana via Costa Rica	SS
0027	6055	VOIRI, Iran	sign on	0300	4920	R. Quito, Ecuador	SS
0030	4980	Ecosdel Torbes, Venezuela	SS	0300	4940	R. Amazonas, Venezuela	SS
0030	5960	R. Canada Int'l		0300	4970	R. Rumbos, Venezuela	SS
0030	5965	R. Havana Cuba	SS	0300	5981	Union Radio/AWR, Guatemala	
0030	6065	R. Sweden		0300	6725	R. Satelite, Peru	SS
0030	9022	VOIRI, Iran		0300	7110	R. Ethiopia	Amharic
0030	9540	Radio Exterior Espana		0300	7115	R. Sweden	
0030	11905	R. Thailand		0300	7325	BBC	
0045	6040	DeutscheWelle, Germany	SS	0300	9690	China Radio Int'l via Spain	
0100	4805	R. Amazonas, Brazil	PP	0300	11885	Radio Japan	
0100	4835	R. Tezulutlan, Guatemala	Quechua	0300	5077v	Caracol, Colombia	SS
0100	4845	R. Cultura, Brazil	PP	0330	4930	R. Internacional, Honduras	SS
0100	6135	Swiss Radio Int'l		0330	4945	R. Illimani, Bolivia	SS
0100	6235	R. Quisqueya Int'l, Dominican Rep	SS	0330	7200	Yakutsk Radio, Russia	RR
0100	7260	V of Vietnam, via Russia		0330	7390	Vof Broad Masses, Eritrea	
0100	17605	CPBS, China	CC	0400	3330	Christian Voice, Zambia	
0130	4702	R. Eco, Bolivia	SS	0400	4905	Ecosdel Orinoco, Colombia	SS
0145	4885	R. Clube do Para, Brazil	PP	0400	4915	R. Cora, Peru	SS
0145	5035	R. Aparecida, Brazil	PP	0400	5955	ChannelAfrica, S. Africa	
0145	7160	R. Tirana, Albania		0400	5975	BBC via Antigua	
0145	7290	R. Sweden		0400	7240	V of Russia	
0145	7355	Vatican Radio		0400	9445	Voice of Turkey	
0200	4610	Rep. of Iraq Radio	M	0420	9585	Qatar Broadcasting Service	sign on
0200	4755	Radio Educacao Rural, Brazil	PP	0430	3356	R. Botswana	
0200	4815	Radio Guatapuri, Colombia	SS	0430	4770	R. Nigeria, Kaduna	sign on
0200	4830	R. Tachira, Venezuela	SS	0430	5975	RAI, Italy	
0200	4955	R. Nacional, Colombia	SS	0430	9520	Channel Africa, S. Africa	
0200	5077	Carocal, Colombia	SS	0441	5965	R. Oranje, South Africa	sign on
0200	5920	R. France Int'l		0457	7185	Channel Africa	PP, sign on
0200	5930	R. Prague, Czech Rep.		0500	4815	Radio Burkina, Burkina Faso	FF
0200	6095	R. Portugal		0500	4990	Radio Nigeria, Lagos	

UTC	Freq.	Station/Country	Notes	UTC	Freq.	Station/Country	Notes
0500	4996	R. Andina, Peru	SS	1230	11735	R. Finland Int'l	
0500	5010	R. Garoua, Cameroon	FF	1230	17630	Africa No. One, Gabon	
0500	6185	R. Educacion, Mexico	SS/EE	1245	15130	R. Republik Indonesia	II
0500	6250	R. Malabo, Equatorial Guinea	SS	1300	9590	R. Norway	NN
0500	7105	R. Bosnia-Hercegovina		1300	11815	Polish Radio	
0500	7465	V of Israel		1300	11850	R. Thailand	NN
0500	7480	R. Bulgaria		1300	11995	FEBC, Philippines	
0500	9590	ChannelAfrica, S. Africa		1300	17745	R. Romania Int'l	
0500	11900	Channel Africa, S. Africa		1320	21520	RAI, Italy	sign on; Sun
0600	4870	ORTB, Benin	FF	1330	11650	R. Sweden	
0600	6010	R. America, Peru	SS	1330	15060	BSKSA, Saudi Arabia	M
0600	6165	Swiss Radio Int'l		1330	15395	UAE Radio, Dubai	
0600	9425	Voice of Greece		1400	9355	Monitor Radio - KHBI, No. Marianas	
0600	9820	R. Havana Cuba		1400	11720	R. Norway	NN
0630	5047	RTT, Togo	FF	1400	11895	R. Japan via Fr. Guiana	
0630	5985	R. Vlandaaren, Belgium		1400	12077	Kol Israel	
0630	6015	R. Austria Int'l via Canada		1430	15325	R. Canada Int'l	
0630	9510	R. Romania Int'l		1500	6000	City Sounds, Singapore	CC/EE
0700	4783	Radio TV Malienne, Mali	FF	1500	11580	KTWR, Guam	
0700	6070	CFRX relay CFRB, Canada		1630	17870	R. Exterior Espana via Costa Rica	SS
0700	5020v	La Voix du Sahel, Niger	FF	1630	21700	R. Japan	JJ
0715	6165	Swiss Radio Int'l		1700	21455	HCJB, Ecuador	
0730	7180	R. Denmark via Norway		1730	11970	R. Jordan	M
0730	11615	HCJB, Ecuador		1800	11990	R. Kuwait	
0800	3925	R. Tampa, Japan	JJ	1800	15185	R. Africa, Eq. Guinea	
0800	6100	R. NewZealand Int'l		1800	15265	Radiobras, Brazil	
0800	7285	RTVM, Mali		1800	15495	R. Kuwait	M
0800	9525	Vof Indonesia		1900	8000	V of Sudan (clandestine)	M
0900	3290	V. of Guyana	EE	1930	19374	Voice of America	
0900	7115	Trans World Radio, Monaco		2000	12085	Radio Damascus, Syria	
0900	9700	R. New Zealand Int'l		2000	15150	R. Canada Int'l	
0900	4914v	R. Cora, Peru	SS	2100	5925	R. Canada Int'l	
1000	4890	NBC, Papua New Guinea	Pidgin	2100	6185	R. Yugoslavia	
1000	5030	Adventist World Radio, Costa Rica	SS	2100	9550	R. Havana Cuba	
1000	21605	UAE Radio, Dubai		2100	9910	All India Radio	
1030	3300	Radio Cultural, Guatemala s	SS	2100	13715	R. Havana Cuba	
1030	13645	Radio Finland		2130	15415	R. Jamahirya, Libya	M
1030	4779V	R. Oriental, Ecuador	SS	2145	11760	R. Havana Cuba	
1100	3365	R. Milne Bay, Papua New Guinea	Pidgin	2200	9388	Kol Israel	Hebrew
1100	3380	Radio Chortis, Guatemala	vern.	2200	9570	R. Portugal	PP
1100	6175	Faro del Caribe, Costa Rica	SS	2200	9770	UAE Radio, Abu Dhabi	
1100	9580	R. Australia		2200	9830	R. HavanaCuba	SS
1100	11800	SLBC, Sri Lanka	local	2200	11880	R. Exteriorde Espana	SS
1100	15470	R. Pakistan		2200	11945	R. Canada Int'l	
1130	6120	R. Japan via Canada		2200	11965	R. Record, Brazil	PP
1130	9650	R. Korea, S. Korea via Canada		2200	13740	R. Canada Int'l	
1145	16330	R. Rossi, Russia	RR	2230	6090	Radio Nigeria, Kaduna	Hausa
1200	3325	R. Bougainville, Papua New Guinea	Pidgin	2230	6135	R. Aparecida, Brazil	PP
1200	7330	R. Atlantika, Russia	RR	2230	7505	CPBS, China	CC
1200	9510	R. Australia		2230	9505	R. Havana Cuba	
1200	12005	HCJB, Ecuador		2230	9605	UAE Radio, Abu Dhabi	
1200	13635	Swiss Radio Int'l	II	2230	9635	R. Portugal Int'l	
1200	13790	R. Bulgaria		2230	9645	R. Bandeirantes, Brazil	PP
1200	13800	Radio Norway		2246	9900	R. Cairo, Egypt	M, sign off
1200	15260	VOIRI, Iran		2300	5954	R. Casino, Costa Rica	SS/EE
1200	15400	R. Finland Int'l	Finnish	2300	9770	UAE Radio, Abu Dhabi	
1215	9670	R. VeritasAsia, Philippines		2300	11915	R. Gaucha, Brazil	PP
1215	9680	RRI, Jakarta, Indonesia	II	2330	7125	Voice of Russia	
1215	15295	R. Tashkent, Uzbek		2330	7215	RTVI, IvoryCoast	FF
1230	9370	KSDA, Guam	CC	2355	9925	R. Vlaanderen Intl, Belgium	GG
1230	9575	R. Mediterane, Morocco	FF				

Product Parade

REVIEW OF NEW, INTERESTING AND USEFUL PRODUCTS



The Echomax 2000 Microphone

Astatic has announced the release of the Echomax 2000 microphone. The new mic, designed for citizensband operators, is a true "digital" design, providing clear-

er sound and enhanced fidelity. The Echomax 2000 is constructed of heavy gauge steel, utilizing separate switches for the PTT and lock buttons.

Features include a totally new CB sound feature called "Slapback"—one echo repeat instead of numerous ones. The echo delay is variable from micro seconds to about one second long. The new Echomax 2000 mic also features new ETS tones, or "roger beep" tones, which are generated digitally, eliminating the often-heard piercing sound. The Echomax 2000 features two different unique ETS tones, which can also be turned off via a switch on the front panel.

Other features include a headphone jack with its own volume control to allow the user to plug in headphones and hear the amount of echo to get the sound adjusted perfectly. It can also be used to run powered speakers. Also included on the mic is an analog VU meter (instead of

LEDs). The mic cable is detachable to allow the user to switch the mic from one radio to another, and a master gain control on the back of the mic allows the user to adjust modulation levels.

Current drain using a 9 volt battery is about 8mA. The company reports that constant use of the headphones increases current drain. (The optional wall adapter should be used instead of the 9 volt battery in this case).

The U.S.A.-made mic carries a one-year limited warranty on parts and labor and is available from Astatic dealers. You can get more information by calling CB dealers, or Astatic at 216-593-1111. Their address is Astatic, 341 Harbor Street, P.O. Box 120, Conneaut, OH 44030. Astatic is recognized as a world leader in CB microphones by providing a large variety of handheld and base station mics. Astatic has been making the D104 series mic for over 60 years.

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. . . JUST GOT BETTER!



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- 50 page printed manual
- New improved online help

Note: Std. COPYCAT Does Not Support Radio Interface

NEW COPYCAT-PRO FEATURES

- Control BOTH your TNC and radio simultaneously! Send commands to TNC and at same time, send frequency and mode to radio!
- NEW! Multiple pop-up windows for HELP, frequency files, and text editor. Instantly go between any of three windows with single keystrokes
- Supports ALL SCANCAT frequency file formats, or create your own!
- NEW, easier, "Plain English" MACRO language for control of all radio and TNC functions.
- RADIO SUPPORT for most AOR, JRC, KENWOOD, ICOM, YAESU, plus LOWE's HF-150 and Watkins Johnson's HF-1000.

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upgrades to COPYCAT-PRO \$24.95 SH \$5.00 (\$7.50 Foreign)

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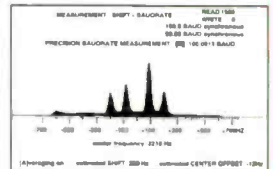
FREE DEMO ON BBS & WWW

HOKA CODE-3 USA Version

"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?

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, and the best news of all, is that it is available from a United States dealer.

26 Modes Included in STANDARD package include:

- Morse ★
- RTTY/Baudot/Murray ★
- Sitor CCIR 625/476-4
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- AX25 Packet ★
- Facsimile all RPM (up to 16 gray shades at 1024 x 768 pixels ★
- Autospec - Mk's I and II
- DUP-ARQ Airtrac
- Twinplex
- ASCII ★
- ARQ6-90/98
- SI-ARQ/ARQ-S
- SWED-ARQ-ARQ-SWE
- ARO-N-ARQ1000 Duplex Variant
- ARO-E3-CCIR519 Variant
- POL-ARQ 100 Baud
- DUP-ARQ
- TDM242/ARQ-M2/4-242
- TDM342/ARQ-M2/4
- FEC-A FEC100A/FEC101
- FEC-S • FEC1000 Simplex
- Sports info 300 baud ASCII
- Hellsreiber-Synch/Asynch ★
- Sitor • RAW (Normal Sitor but without Synch.
- ARO6-70
- Baudot F788N
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- EXTRA OPTIONS**
- Option 3 Piccolo\$85.00
 - Option 4 Coquelet\$85.00
 - Option 5 4 special ARQ & FEC systems TORG-10/11, ROU-FEC/ RUM-FEC, HC-ARQ (ICRC) and HNG-FEC\$115.00
 - Option 8 SYNOP decoder.....\$85.00

All modes in typical baud rates with possibility of changing to any desired value of speed and shift.

All options are available from the main menu, saving or loading to and from hard/floppy drive in bit form, means no loss of unknown signals!

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INCLUDES: 1. OSCILLOSCOPE ★ 2. ASCII STORAGE 6. AUTO CLASSIFY ★ 7. FACTOR ★

ALL FOUR EXTRA OPTIONS - \$199.95

NOW AVAILABLE — CODE-30 DSP-Based Decoder with all above options. SCALL (318) 687-2555

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ALL OPTIONS
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(S & H \$10 US, \$15 Foreign)



New CB Radios Introduced by Cherokee

Cherokee Electronics is proud to introduce two new additions to its revolutionary line of CB radios. The first model is the world's first handheld AM/single sideband radio, Model AH-100. Measuring 6 1/2" x 2 1/2", it sets a new standard for portable single sideband utility and performance. With a suggested retail price of \$349.95 it includes the following features: AM/USB/LSB operation, LCD display with channel and frequency readout, slide-on battery pack, clarifier control, dual watch, channel scan, mic gain/RF gain and more.

The second model is the CBS-1000, an AM/SSB base station. This new CB transceiver includes the following standard features: AM/USB/LSB operation, 10-channel weatherband receiver, five pre-set memory locations, dual watch, auto-channel scan and memory scan, course and fine clarifier controls, LCD display with frequency readout, modulation/SWR meter, mic gain, RF gain, and SWR calibration and much more. The CBS-1000 retails for \$499.95.

Both of these products will be available in November at CB dealers, two-way radio dealers and various electronic dealers around the country. For more information, contact Wireless Marketing Corporation, 3701 Algonquin Road, Suite 750, Rolling Meadows, IL 60008; or call them at 1-800-259-0959.

Police Call Plus Now Available on CD-ROM

Police Call Plus publisher Gene Hughes has announced the availability of the long-awaited CD-ROM version of the popular frequency reference guide for scanner users and communications pro-

fessionals. All nine updated volumes have been compiled into one power feature-loaded disk that contains virtually all of the same detailed information that Police Call Plus users are accustomed to—with added exclusive features, according to Gene.

The news release states, "Police Call Plus on CD-ROM is simple enough for a beginner to use, yet packs enough information for the most demanding professional." The user can select any number—or all—of the following criteria for searching records: state, license name, licensee city, transmitter city, service code, frequency, callsign, and type of system. It isn't even necessary for the user to have the exact licensee name, complete city name or full callsign if any of those are used as criteria for a search. Retrieved information may be sorted in any order selected by the user.

Police Call Plus CD-ROM requires Windows 3.1 or Windows 95 and only 8 MB of RAM. The list price is \$29.99. The Police Call Plus CD-ROM is sold by electronics retailers and mail order firms. It is NOT sold by RadioShack company-owned stores. For more information via e-mail, contact <Hollinsrad@aol.com>.

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- Search between any 2 frequencies.
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- Unattended Logging of frequencies to files while scanning.
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PLUS

- LINK up to 15 Disk files.
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Fully Restorable AR2700
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- UNIQUE database management system with moveable columns. Even SPLIT columns into doubles or triples for easy viewing of ALL important data on one screen.
- 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!
- Exclusive "SLIDE RULE" tuner. Click or "skate" your mouse over our Slide-Tuner to change frequencies effortlessly! OR use our graphical tuning knob.
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TIRED OF YOUR HANDHELD SCANNER ALWAYS FALLING OVER JUST TO KEEP THE ANTENNA "VERTICAL"?

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

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The Listening Post

BY GERRY L. DEXTER

WHAT'S HAPPENING: INTERNATIONAL SHORTWAVE BROADCASTING BANDS

Channel Africa Loss is Averted

All together now: one, two, three—and a big sigh of relief. The potential loss of Channel Africa has been averted. What is surely Africa's best broadcaster will become a part of the South African Broadcasting Corporation (SABC), which will pick up the station's budget—a figure which came to \$7.5 million a year when the station operated as a part of the South African Foreign Ministry. SABC is also looking into the possibility of expanding Channel Africa's coverage to include targets outside of the African continent, something which Channel Africa did up until a few years ago (including a service to North America). Channel Africa's current audience is estimated to be around 15 million people.

ANTARCTICA—The Argentine station Radio Nacional Arcangel San Gabriel has been reactivated on **15476**. The station uses the call LRA36 and plays a variety of music, including light classical, and runs until sign off around 1950. In its past operations the station didn't close down until around 2330, which made it considerably easier to log—although hearing it was still often a battle. At present, Africa Number One on **15475** kicks up a lot of interference until it signs off at 1900. LRA36 doesn't sign on until 1800, so the schedule window is less than two hours. The station is located at the Argentine Esperanza Base. Reception reports may be sent to C.P. 9411, Antartida Argentina.

LIBERIA—We don't know if this is a case of history repeating itself or not, but a "new" station has come out of the turmoil in Liberia. The Liberian Communications Network is operating Radio Liberia on **5100** and **6100**. The schedule is announced as 0500 to 1800 on **6100** and 1800 to 0200 on **5100** (it apparently runs a bit later than 0200 on the weekends). The transmitter is at Totota in the central part of the country, about 70 miles from the capital, Monrovia. Reception reports can be sent to Mr. Isaac P. Davis, Liberian Communications Network, P.O. Box 1103, Monrovia, Liberia. A "Liberian Communications Network" was

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LeSea Broadcasting's radio station WHRI recently celebrated its 10th year on shortwave with this commemorative QSL card.

active the last time that country went through a similar crisis.

DENMARK—One of Denmark's commercial broadcasters, Radio ABC, tried to get a license to operate a shortwave station but was turned down by the Danish government (not even the government operates a shortwave directly from the country!). Failing that, Radio ABC has gone on the air via a 120 kW transmitter in Russia, at a site in the Kaliningrad region. The broadcasts are on Sundays from 0800 to 1200 on **7570**, and are in English and Danish. Reception reports may be sent to ABC Denmark, P.O. Box 174, DK-8400 Randers, Denmark.

KUWAIT—Radio Kuwait is relaying a local FM station in Kuwait City. "Super Station 99.7" has been noted on Radio Kuwait around 1800 (or 1830) running to 2100 after which Radio Kuwait goes into Arabic. This may not be daily, however. It might be possible to get a QSL from this directly from the FM station itself.

IRAN—The Voice of the Islamic Republic of Iran (VOIRI) has inaugurated its new transmitting site at Sirjan, in Kerman Province. The site features ten 500

kW shortwave transmitters and 48 directional antenna systems. Some frequencies apparently in use by this new facility include **6165**, **7130** and **7295**.

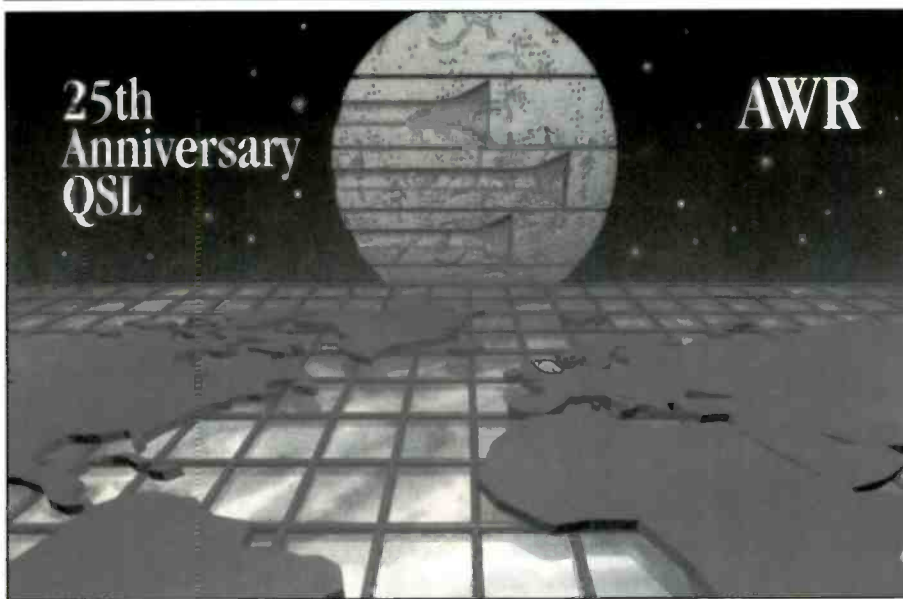
VOIRI has told some DXers that two reports are required in order to receive a QSL. The station has also changed its address; it's now P.O. Box 19395-6767, Tehran, Iran.

Deutsche Welle News

A quick update to an earlier item about Deutsche Welle dropping shortwave transmissions for European audiences. That's not entirely true. The cessation applies only to foreign languages. DW's shortwave broadcasts in German to Europe will continue.

Learning From Cuba?

Maybe the big-budget international broadcasters could learn a thing or two from Radio Havana Cuba. Despite an economy that's all but dead in the water, Radio Havana Cuba keeps rolling along,



Adventist World Radio marked a quarter century of operation with this stylish QSL which incorporates the AWR three trumpets logo.

though they very often have to find ways to "make do." They've recently put a rhombic antenna into use for the 100 kW transmitter beaming to Europe on 13715. This antenna formerly served as a radio-telephone link with Europe before satellite transmissions came along. Somehow, the station has also been able to add audio-processing equipment.

BURUNDI—The Voice of Peace is the name of a new station planned for Burundi, but it's not yet known if this will be medium wave, FM or shortwave. The

station is a project of the Burundi Council of Catholic Churches.

BAHRAIN—It appears that Radio Bahrain is not currently active on either of its shortwave frequencies (6010 or 9746). This one has escaped the clutches of your editor over the years, so here's one person hoping Bahrain's disappearance is only a temporary thing.

PORTUGAL—Radio Portugal has re-timed it's English language broadcast to North America. It's moved from 0230 to 0330, Monday through Friday on 6095 and 9570.

SAO TOME—The fourth transmitter is now operative at the VOA's Sao Tome relay and is scheduled on 5970 from 0430 to 0700, 11765 from 1630 to 1830 and 12080 from 1830 to 2130.

URUGUAY—Check variable 9650 for a new station from Uruguay. Emisora Ciudad de Montevideo has been active around 1500 to 1600 and again around 2200–2300. This is apparently still in the testing phase. The tests may occur at any time between 1100 and 0300. We don't know when the owners plan to begin a regular broadcasting schedule. A second transmitter will eventually go into operation on 15230. The power of this station is only 1.5 kW, using home-built equipment, so you'll probably have to really dig for this one.

VOICE OF MEDITERRANEAN—The Voice of the Mediterranean, which had to leave shortwave when Deutsche Welle discontinued its Malta relay, has returned to the air via transmitters in Russia, though it's not 100 percent sure this will be a permanent arrangement. Check 9765 and 12060 between 1900 and 2100 for broadcasts in English, German, French and Arabic.

MEXICO—Radio Mexico International is having technical problems on its 5985 and 9705 frequencies, so if you don't find them or have especially poor reception, that may be the reason.

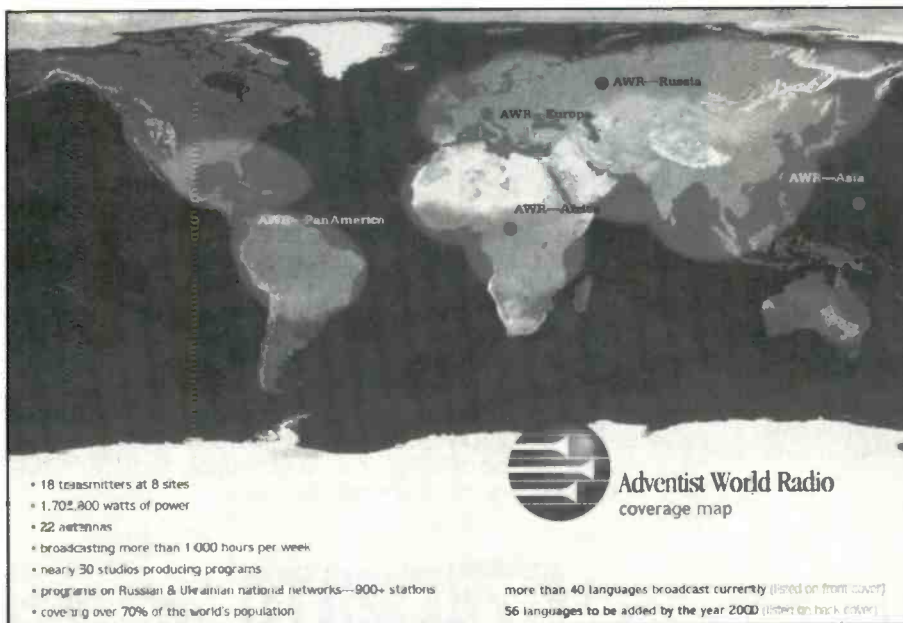
Your Loggings, Please!

Your loggings and other informational input are always very much needed and very welcome! Please list your logs by country, double space between them, and include your last name and state abbreviation after each. We also welcome any spare QSL cards, station photos, pictures of you and your listening post, news of station QSL requirements, address changes, and general shortwave station news. We invite you to contribute as often as you can.

This Month's Logs

All times are UTC, which is five hours ahead of Eastern Standard Time, i.e. 0000 UTC equals 7 p.m. EST, 6 p.m. CST, 5 p.m. MST, 4 p.m. PST. The broadcast language is assumed to be in English unless noted otherwise by an abbreviation such as SS, PP, FF, RR, GG (Spanish, Portuguese, French, Russian, German, etc.)

ARGENTINA—RAE, 15345 at 1908 with news. (Pedraza, OH)



Adventist World Radio's world coverage is shown in this attractive folder card.

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Scanning Aerials: To improve your reception...

Watson Scanning Aerials have been designed to bring you the very best reception possible. High quality engineering and ergonomic design ensure that Watson Scanning Aerials are the natural replacement for those seeking to extend their receiver's range. All models cover 25MHz-1900MHz and are fitted with BNC connectors.



LOWE HF250



The Lowe HF250 is set to become the new world standard for mid-priced receivers. Building on the worldwide success of Lowe's HF225 and HF150 models, the new HF250 combines Lowe's traditional high standards for performance and quality of construction together with the advanced facilities and control features required by today's discerning listener.

MONITORING ACARS with the new LOWE "AIRMASTER"

The monitoring of air band communications is a hobby that has become more and more popular over the last 10 years. In common with the rest of the communications field, there are far reaching changes in process in this area to cater to the requirements of air traffic control in the next century. ACARS is a very specialized data mode, and only decoders that have been specially designed for it will function. Until now, the only decoders that will work have been fairly expensive devices, as they use dedicated hardware to handle the decoding.



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- Gain: 144-430MHz (2M 1/4 wave - 70cms 3/4 wave)
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- VSWR: <1.5:1
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- Connector: BNC
- Cable length: 9'



WSM-1900 Scanner Antenna

Dedicated VHF/UHF Scanning Aerial

- High Performance throughout the range
- Greatly Improves Signal Reception
- Covers Airband - Marine, Ham, Emergency, Cellular
- Whip length: 1.3"
- Connector: BNC Plug
- Cable Length: 9'



Introducing the SF100 SOUND FEEDER™ MOBILE AUDIO CONNECTOR



The SOUND FEEDER Model SF100 Mobile Audio Connector is the most practical and convenient way to connect your portable compact disc player or cassette player to your car's existing FM radio speaker system. By simply plugging the SOUND FEEDER into

your cigarette lighter, connecting the audio input wire to your portable player, and setting it to the desired station, you can begin to enjoy the amplified STEREO sound of your portable music source without the bother of dangerous (and often illegal) headphones. As an added feature, the SOUND FEEDER also contains a specially designed DC-to-DC converter which will provide 3V, 4.5V, 6V, or 9V DC power from the car cigarette lighter to most (but not all) models of portable players. The SOUND FEEDER's combination of stereo sound, easy installation, portability, and power supply feature make it the ideal accessory for every vehicle owner.



LOWE HF150

Lowe, an outstanding U.K. manufacturer of shortwave receivers, created an easy to operate, compact, receiver, with the features of the "Big Guys." From the longest of Long Wave to the top limits of the Short Wave spectrum, the HF-150 is designed to give you everything you needed in a real radio receiver. There has quite literally never before been a receiver like the HF-150, because only now have technology and engineering been combined in such an effective package. This innovation at its very best.



DAIWA DIGITAL & CROSS NEEDLE METERS



From the originator of the Cross Needle meter, Daiwa offers models to suit every application, band and power level... Hi-Tech DP800 series-for computerized, fully automatic digital PEP or average power reading in three models for 1.8 thru 525MHz. • Deluxe NS660 series-with models covering 1.8MHz thru 2.5GHz, all power levels, PEP or average reading with exclusive multiband remote sensor capability. • CN101 series-for PEP and average power reading base station use with models for HF and VHF/UHF. • CN410 series-compact mobile HF and VHF/UHF models (2 power levels) with custom backlit meter for easy & safe night viewing.



POWER SUPPLIES



Daiwa's hi-tech, super efficient designs yield higher output capacity in rugged, compact packages. Excellent regulation with less than 2.5mV ripple is typical. Fully protected with "crowbar" over voltage and fold-back over current protection circuits. Front panel, fully adjustable voltage is standard on most models. Full switchable metering of voltage and current standard on all adjustable voltage models. Convenient multiple DC outputs, and more!



WINRADIO

NEW

What is WINRADIO?

WINRADIO integrates advanced radio receiver technology and the power of your PC, to create a stunning new concept in communications technology. Plug the WINRADIO card inside your PC, install the Windows software, and, using the keyboard or a mouse, operate WINRADIO exactly like a professional communications radio scanner, with controls and displays you would only find on high quality and expensive equipment. If you already are an experience radio user, you already know what we are talking about. At a retail price comparable to that of a high-end PC sound card WINRADIO is ready to become a hot, "must have" item for PC users.



SCANCAT GOLD

Complete control of all functions supported by the radio through the standard manufacturer's interface.

SCANCAT allows you to:

1. Enter any one frequency and increment up-down from that point.
2. Enter any two frequencies and scan between them with ANY increment, time delay or pause.
3. Scan a file of frequencies, search by description or wildcards.
4. Create Databases of frequency files. Sort by any field, and save to disk and/or send to printer.
5. Create 30 personal "Preset" frequency BANDS for SW, aircraft etc. including increment and mode.

The most popular presets are included in the program.

SCANCAT presently supports:

- AOR3000/3000(A) & AOR2500, AOR-3030 HF receiver, AOR-8000 (Newest handheld) • Drake R-8 • MOST Icom Radios • Kenwoods including TS-440, TS-450, TS850 & R5000 • MOST Yaesu's including FRG-8800 & FRG-9600 Yaesu, PLUS FRG-100, FT-840 and more! • The NRD-525 & 535 JRC • LOWE HF-150 • Watkins Johnson HF-1000
- Opto Scan add-on boards for PRO series Radio Shack Scanners



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AUSTRALIA—Radio Australia, 5995 at 1305 with Asian news, 9660 at 1315 in CC and 9860 at 1130 in EE. (Northrup, MO) 11880 at 0625 with "Feedback" and Internet addresses, promo and news. (Pedraza, OH)

BRAZIL—Radio Brazil Central, Goiania, 4985 at 0705 in PP with announcements and music. (Pedraza, OH)

Radio Cultura, Sao Paulo, heard on 6170 in PP at 0610 broadcasting news and music. (Pedraza, OH)

Radiobras, 15265 at 1800 with EE ID, PP announcements and frequency schedule. (Pedraza, OH)

Radio Nacional do Amazonia, 11780 in PP at 2123 with announcements and sports news. (Pedraza, OH)

CANADA—CBC/Radio Canada Int'l, 9640 at 1300 with ID, CBC news in EE, then FF music. 9650 in FF at 1250. (Northrup, MO)

CHILE—Radio Esperanza, Temuco, 6090 in SS at 0830 with announcements and SS music. (Pedraza, OH)

COSTA RICA—Adventist World Radio, 9725 at 1245 with a doubting Thomas story, ID. (Northrup, MO)

Radio For Peace International, 6205, 0300 with a variety of programs to 0500 tune out. (Finley, NY)

COLOMBIA—Ecos del Orinoco, Vichada, presumed, 4890 at 0320 in SS with typical music, time check, commercial for Vichada Tourism, pops. (Pedraza, OH)

Radiodifusora Nacional de Colombia, 4955 at 0435 in SS with Caribbean music special, national anthem and sign off at 0445. (Pedraza, OH)

CUBA—Radio Havana Cuba, 9550 at 1300 with news in SS. (Northrup, MO)

CZECH REPUBLIC—Radio Prague, 7345 at 0300 with news read by Pauline Newman. Czech political news, press review, economic report. (Pedraza, OH)

DOMINICAN REPUBLIC—Radio Pueblo, via Radio Cristol, 5012.2 at 0150 in SS with dance music, IDs, mention of Santo Domingo, other announcements. Poor. Thanks to Ed Rausch. (Paszkievicz, WI)

ENGLAND—BBC heard on 9515 at 1305 with news, ID; 9740 and again at 12440 with "Sports Roundup" and ID; 1310 with news. (Northrup, MO)

EQUATORIAL GUINEA—Radio Africa, 15186 at 1918 with ID, frequency listings, addresses, including Liberia and Algeria. (Pedraza, OH)

FINLAND—Radio Finland, 9670 at 1300 in Finnish, with ID. (Northrup, MO) 11900 at 1200 in Finnish with news, and ID in EE. (Pedraza, OH)

FRANCE—Radio France Int'l, 12015 at 0147 in SS with DX program to 0155, off at 0157. (Pedraza, OH) (Maybe via French Guiana, editor)

GREECE—Voice of Greece, 9375 at 1900 in presumed Greek. Mainly music. Also 9935 at 2150 in EE and presumed Greek with news, talk and music. (Ziegner, MA)

HAWAII—WVH time station, 5000 at

Abbreviations Used in Listening Post

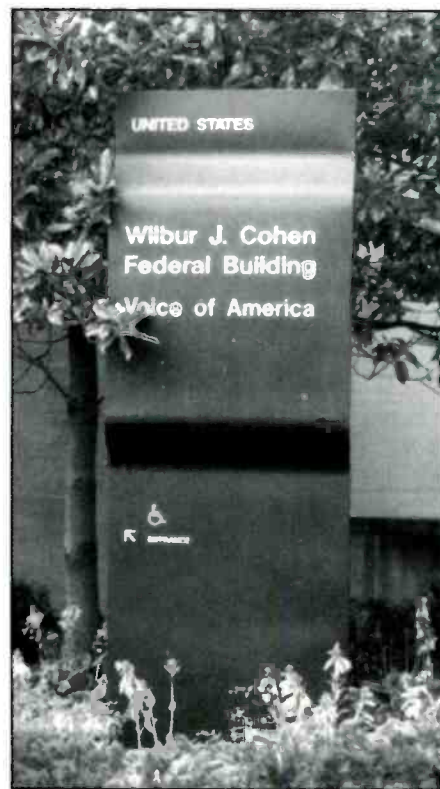
AA	Arabic
BC	Broadcasting
CC	Chinese
EE	English
FF	French
GG	German
ID	Identification
IS	Interval Signal
JJ	Japanese
mx	Music
NA	North America
nx	News
OM	Male
pgm	Program
PP	Portuguese
RR	Russian
rx	Religion/ious
SA	South America/n
SS	Spanish
UTC	Coordinated Universal Time (ex-GMT)
v	Frequency varies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

0804 with time signal announcement under WWV. (Pedraza, OH)

HONG KONG—BBC, 15280 with "English by Radio" at 0258; IS and BBC English language lesson programming. (Jeffery, NY)

IRAN—Voice of the Islamic Republic of Iran, 15084 at 1830 with news in Farsi. (Pedraza, OH)

IRELAND—Radio Telefis Eirann, Dub-



This sign points the way to the Voice of America's front door in Washington, DC (Thanks: Sue Wilden, IN)

lin, via WWCR on 12160 at 2000 news of Ireland and sports results. (Provencher, ME)

Mid-West Radio Co., Mayo, Ireland, 7325 (via BBC) with special broadcast at 0000 replying to phoned in greetings from listeners. (Provencher, ME)

ITALY—RAI, 11800 at 0030 with Italian sports news, feature, music, news, frequencies, chimes, ID in English, news. (Pedraza, OH)

JAPAN—Radio Japan, 5960 via Canada at 0101 with IS, announcements and news. (Wilden, IN) And on 9535 at 1305 in JJ with news; and 9750 at 1305 in JJ. (Northrup, MO) 11705 via Canada relay at 1430 with discussion on pagers. (Wallezen, IL)

Radio Tanpa, 9595 at 1230 in JJ. (Northrup, MO)

KAZAKSTAN—Kazak Radio, 9660 at 2300-0000 in KK with occasional Arabic talk, world news, comment, music. (Ziegner, MA)

KUWAIT—Radio Kuwait, 11990 at 2000 with feature on religion and the Holy Koran. (Pedraza, OH) 2030 on making Kuwaiti and Turkish coffees. (Wallezen, IL)

NETHERLANDS—Radio Netherlands, heard on 9700 at 0733 with news. (Pedraza, OH)

NIGERIA—Radio Nigeria, Kaduna, 4770 at 0540 with music, announcements, ID, news at 0600 and close at 0607. (Pedraza, OH)

OMAN—BBC relay with South Asia program stream, 15310 at 0259 with IS, ID, news. (Jeffery, NY)

PARAGUAY—Radio Nacional, heard on 9735 at 0210 in SS with soccer game, many commercials, including one for Budweiser. (Pedraza, OH)

PERU—Radio Cora, on 4915 in SS at 0159 with pops, ID, frequencies. (Pedraza, OH)

PORTUGAL—6095 at 0214 with sports news, weather, "Challenge for the '90s." (Pedraza, OH) Ending English segment at 0358, ex-0230. (Paszkiwicz, WI)

ROMANIA—Radio Romania Int'l, 5990 at 2133 in unidentified language with what sounded like news, followed by an ID. (Jeffery, NY) 9510 at 0400 with tones, feature on Romanian politics, "World of Culture." (Pedraza, OH)

RUSSIA—Voice of Russia, 7125 at 0000 with news. (Pedraza, OH) 7240 at 0102. (Wilden, IN)

SEYCHELLES—FEBA, 11695 at 0347 in presumed Arabic with IS, announcements, instrumental version of a Diana Ross song, Arabic music. (Paszkiwicz, WI)

BBC relay with alternative African program stream on 17885 at 1342 with an African music program. Lost by 1355. (Jeffery, NY)

SINGAPORE—BBC relay with Asia/Pacific program stream on 15360 at 0233 with "Thirty Minute Drama." (Jeffery, NY)

SOUTH AFRICA—Channel Africa, 11725 at 0505 with "Dateline Africa" and news. (Pedraza, OH)

SPAIN—Radio Exterior Espana on 9630 in SS at 1310 with "International Chronicle." (Northrup, MO)

TAIWAN—Voice of Free China (via

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WYFR) heard on 9590 with "Mailback Time." (Pedraza, OH) Also on 17750 via WYFR at 2236 with story on bungee jumping. (Wilden, IN)

TANZANIA—Radio Tanzania, heard on 5050 at 0330 with sign on with bell IS, then ID, frequency and national anthem. (Paszkiwicz, WI)

TURKMENISTAN—Turkmen Radio, 7295 variable at 0200 to 0257 in probable Turkmen. News and music. (Ziegner, MA)

UNITED ARAB EMIRATES—UAE Radio, Dubai, 13675 at 1630 with Arabic singing. (Wallezen, IL) 0337 with news. Also 11945 at 0330 with news. (Pedraza, OH)

UZBEKISTAN—Radio Tashkent, 7143 at 0200-0300 with Uzbek greeting followed by news, probably in Uzbek. Not heard daily. (Ziegner, MA)

VATICAN—Vatican Radio, 7305 at 0315 in SS with religious news and talk. The announcer was Fernando Molina. Also on 9605 at 0250 with a feature on human rights abuses in Guatemala. (Pedraza, OH)

VENEZUELA—Observatorio Naval time station, 5000 at 0805 with SS time announcements, weak under WWV. (Pedraza, OH)

VIETNAM—Voice of Vietnam via Armavir, Russia, 7250 at 0210 with news, ID. (Pedraza, OH)

ZAMBIA—Christian Voice, 3330 at 0410 to 0430 with Christian vocals, EE announce-

ments, ID. Needs tuning in SSB to reduce the QRM from CHU. (Paszkiwicz, WI)

Radio Zambia-ZNBC, 4910 at 0422 in unidentified language with a talk, music, ID, talk by a woman. (Jeffery, NY)

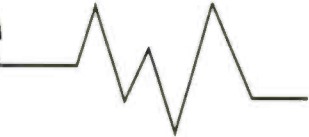
What Have You Heard?

That's the lot, sorry to say. It was another thin month for reports, which generates this gentle reminder that this column is not a magical thing. It does not appear out of nowhere. It requires reader input in order to give you a good look at what's being heard and what you can go after to add to your own logbook. Why not make an early New Year's resolution to contribute often!

Anyway, a roaring salute to the following good folks who came through for all of us this month: Sheryl Paszkiwicz, Manitowoc, WI; Elmer Wallezen, La Grange Park, IL; Edouard Provencher, Biddeford, ME; Sue Wilden, Columbus, IN; Mark Northrup, Gladstone, MO; Tricia Ziegner, Westford, MA; Miguel A. Pedraza, Jr., Springfield, OH; David E. Finley, New York, NY and David Jeffery, Niagara Falls, NY. Thanks to each of you!

Until next month, good listening! ■

Clandestine Communique



TUNING IN TO ANTI-GOVERNMENT RADIO

Looking For Radio Democrat International? Join the Crowd!

Time now, everyone, for Chapter Three in our story of Radio Democrat International, the roving Nigerian clandestine we've discussed in our previous episodes. Forget 7195, they say. That's the frequency to which they were reported moving in our last episode. Now they have settled (permanently, they said) on 6205. But still later in our story they showed up on 7195 again. And, at another time, had 6205 and 7195 in use at the same time. The other frequency they had used initially, 15120, has apparently been abandoned, at least for the moment. The bottom line: If you are trying to hear this one hour broadcast, you should probably check all three frequencies just in case. The sign on time varies from 2057 to 2102. It also seems that they are now using an alternate ID: Radio Kudirat, Nigeria—The Voice of Democracy. This station is certainly one of the most fascinating clandestines we've had in quite some time. One listener heard them with a live call-in show using the number (617) 364-7352. Much of the programming is in English and the signal strength is often quite good, at least in the Midwest and Eastern parts of North America.

The Nigerian government is very upset over the broadcasts, and is doing what it can to attempt to get them to stop. The government has threatened to try the operators for treason if they are caught. The station declines to reveal the location of the transmitter "for political and security reasons."

CHINA—Another fascinating clandestine we've mentioned a couple of times recently is the "New Star Broadcasting Station" which most clandestine enthusiasts believe to be coming from mainland China. *Pop'Comm's* Don Schimmel forwards information from an article in the *Enigma* newsletter by Jerod Pore. Pore called upon a friend to translate one of the broadcasts and discovered the station identifies as "This is Channel Four Broadcasting Station in Taipei, Republic of China, on 8300 kHz." The broadcast starts with music, followed by "We are ready to begin transmission." The confusion about the station's name is said to be due to the language of the broadcast (Mandarin) in which both "broadcasting" and "station" sound much like they do in English. Furthermore, "Channel Four" could be mis-

taken for "New Star" in English. Following a musical break, the translated broadcast went on to say "We are sending telegrams from the following units to the following units." Most of the recipients were indicated as being located in Japan. Messages were prefaced by, as an example, "We are sending a telegram from unit 123 to unit 456 in Japan, please prepare to receive. The telegram contains 10 words." The woman announcer would then read 10 groups of four numbers each. In his article, Pore speculates that the broadcasts are attempts at making China believe that Taiwan is communicating with its agents on the Chinese mainland.

COLOMBIA—Colombian clandestine Radio Patria Libre, the station operated by the ELN guerrillas, is active again after an absence of quite some time. It has been heard on 6300 running until 2230; 6450 until closing at 2234 and 6250 from 2200 to 2230. Some of the programs are "Noticiero Patria Libre" and "Rompiendo las Cadenas." Operations don't seem to take place on a daily basis, however. It has been years since this station began broadcasts and clandestine hunters still

Radio Democrat International Nigeria

QSL - Verification of Reception

This is to confirm that GEORGE ZELLER received *Radio Democrat International Nigeria* on:
Date: JUNE 22 1996
Time: 14⁵⁸ - 15³⁰ GMT/UTC
Frequency: 15120 kHz Power: — kW
Transmitter location: —

SIGNATURE: R.D.I. NIG OFFICIAL SEAL: _____

Clandestine expert George Zeller got this QSL from Radio Democrat International, which objects to the current Nigerian government.

haven't the slightest clue as to an address for this station or its backers.

SRI LANKA—The Trans World Radio transmitter facility at Puttalam, Sri Lanka, is actually owned by the government and is being used to broadcast a service in Tamil produced by the Elaam People's Democratic Party which takes the side of the government in the ongoing civil war. The Tamil broadcast is from 1315 to 1430 on **6035** using 12.5 kW.

IRAQ—The Voice of the Movement of the Mojahedin of Iranian Baluchestan operates only intermittently; and was heard most recently from 0600 to 0745 and 1300 to 1430 in Arabic and Baluchi on **11875**. The broadcasts are believed to originate in Iraq and are hostile to the Iranian government.

An Iraqi-based clandestine which was active and damaged during the Gulf War may be back on the air by now. Voice of the Masses will, according to Iraqi officials, broadcast 18 hours per day on both medium and shortwaves. The station, said an Iraqi government statement, will "seek to embody the creative and ingenious thinking of the leader of the revolution, the builder of Iraq and the model of Arabism and humanity, leader President Saddam Husayn" (Hussein).

TIBET—There's been an interesting development in the case of the Voice of Tibet, the anti-Beijing broadcast which is carried over the facilities of the Far East Broadcasting Association (FEBA) in the Seychelles from 1145 to 1200. China is apparently jamming the broadcast by relaying one of Beijing's FM stations, usually beginning as early as 1145 on FEBA's **15445** frequency. FEBA later moved to **15480** and, as this is written, apparently Beijing hadn't followed. The Beijing station being used as a jammer is believed to be something called "Easy FM," which plays western pops.

Other Clandestine News

The Voice of the Iraqi Communist Workers Party is operating from 0300 to 0500 in Arabic and Kurdish, 1530 to 1630 in Kurdish and 1630 to 1730 in Arabic on **4000**. It's believed that this station may be a replacement for the Voice of the Iraqi People, which seems to have gone silent.

Voice of the People of Kurdistan airs a program in Arabic at 1600, repeated at 0300 on **4100**. It's also been noted in Europe, in Kurdish at 1930 on **6300** variable. Also at 1635.

Thabye Radio is a pro-government station in Myanmar, pretending to broadcast

on behalf of rebel elements. This "black" clandestine continues to operate on variable **6355** from 0030 to 0130, 0530 to 0630 and 1030 to 1230.

Alpha 66 broadcasts its anti-Castro programming over WHRI Monday through Friday from 0700 to 0800 on **7315**. Also at 2200 to 2300 on **9495**.

La Voz de Fundacion, produced by the Cuban-American National Foundation, airs from 0000 to 0200 on **7315** Monday through Saturday.

The Voice of Democracy (anti-Vietnamese government) airs in Vietnamese

over World Harvest Radio's KWHR, Hawaii, at 1400 to 1430 on **9930**.

Help Us Out

That covers the news for this time. Please remember that your informational input is always welcome. Your loggings of clandestine radio stations, news of the activities of such stations, QSL news, addresses, information on the groups and governments which back these stations and broadcasts is always welcome. Thanks for your help and your interest. ■



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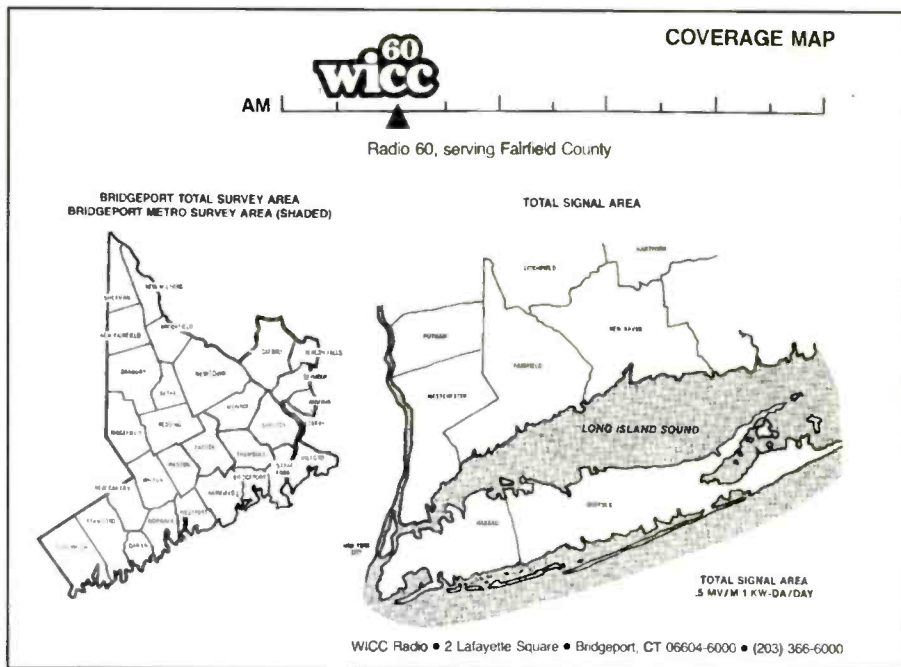
Expanded AM Band on Hold . . . Again

The FCC's second allotment plan for the expanded AM band is on hold following petitions for reconsideration by eight stations that had their slots in the new spectrum taken away under the revised plan. The petitions, which must be resolved before the plan can become final and construction permits can be issued, question the Commission's expanded-band policies, in particular the Byzantine process used to determine which radio stations could migrate to the 10 new channels between 1605 and 1705 kHz.

The second band plan was released in March after the FCC scrapped its original October 1994 list because of flaws and omissions in the database used to determine which stations could migrate. The revised plan contained allocations for 87 stations, up from 79 in 1994. But that change wasn't simply the addition of eight stations. Forty-two stations that had previously been denied allotments were added, while 33 stations that had been granted allocations under the 1994 plan were not part of the 1996 list. And as with the 1994 plan, the 1996 list is drawing fire both for the small number of stations assigned slots in the band and how the Commission chose them from a pool of 688 applicants.

Among the 33 dropped under the revised plan were Arvada, Colorado's KQXI and Buffalo, New York's WNED. In its petition, KQXI cited what it says is an error in the FCC database listing the stations' nighttime power at 166 watts when it's actually 10 kW. Such a discrepancy could be a major factor, since the FCC's goal in expanding the AM band was to reduce interference in the crowded band by granting allocations to those stations whose migration it calculated would most improve overall conditions. WNED's petition requested an explanation for why its improvement factor—used to rank the potential impact each station move would have—was significantly downgraded in the 1996 plan, a change which apparently cost the station the allocation it had received under the 1994 plan.

What the challenges bode for the viability of the 1996 plan depends on wheth-



WICC sent a copy of their coverage map to Pop Comm reader Donald Pipa after he reported hearing them from his western Long Island QTH. A decade ago, they called themselves "Service Six."

er they're simply isolated, individual quibbles, or examples of serious flaws in the Commission's expanded-band policies. The plan can't move forward until the petitions are resolved, but if in the process they point to larger problems, the Commission could be forced to scrap the revised plan and formulate a new, third list of allocations. For the time being, DXers will have to be content with the two stations that have already begun using the band: Elizabeth, New Jersey's WJDM on 1660 kHz, and Vallejo, California's KXBT, on 1630 kHz.

Hard Times

An 11th hour agreement between the Canadian Broadcasting Corporation and its employee unions has stayed off a strike, but not the cuts that may eventually number in the thousands. The deal came as both sides acknowledged the reality of the cuts in the budget for publicly-owned broadcasters—\$227 million this fiscal year and another nearly \$200

million by 1998. "Basically we were bargaining in many cases for the survivors," said one union official of the impending layoffs, which are expected to cut the full-time CBC staff to well below 8,000.

Estimates of just how many jobs will be lost vary, but it could be as many as 3,000. Some losses will be outright layoffs, while others will come through early retirements and unfilled vacancies. The unions representing producers, on-air talent, clerical and support workers agreed to no pay raises between 1993 and September 1998, while technical staff will get only a two percent raise over two years. In return, CBC has agreed to hire some freelancers as full-time staff, and agreed to restrictions on buying programming from the private sector.

The federal budget cuts have fueled the debate over what Canada's public broadcasting service should be. As an Edmonton Journal editorial, sent in by Trevor Fletcher of Edmonton, asked, "Instead of trying to be all things to all people, instead of dumbing down their pro-

Applied for Permits to Construct New FM Stations

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AZ	Page	91.7 MHz	500 watts
CA	Kerman	95.1 MHz	
FL	Murdock	98.9 MHz	
IL	Atlanta	96.3 MHz	
IN	Kentland	102.7 MHz	
ME	Machias	101.1 MHz	
MO	Kirksville	90.7 MHz	25 kW
MS	Stonewall	106.9 MHz	
NM	Alamogordo	91.7 MHz	100 watts
OH	Willard	96.9 MHz	
OR	Lakeview	95.3 MHz	
PA	Brookville	103.3 MHz	
PR	Mayaguez	88.3 MHz	2 kW
TN	Clarksville	88.3 MHz	
VA	Danville	91.1 MHz	
VA	Franklin	91.7 MHz	
VI	Fredericksted	98.5 MHz	
VT	Montpelier	103.3 MHz	(WGBY-FM booster)
WI	Cornell	99.9 MHz	
WY	Jackson	93.3 MHz	
WY	Laramie	96.7 MHz	

Granted Permits to Construct New FM Stations

AK	Ketchikan	99.9 MHz	Low power
CA	Rancho Mirage	99.5 MHz	690 watts
IA	Sageville	106.1 MHz	4.4 kW
IL	Taylorville	94.1 MHz	6 kW
KS	Plainville	96.7 MHz	5 kW
LA	Jackson	104.5 MHz	6 kW
ME	Islesboro	105.5 MHz	25 kW
MN	Appleton	88.5 MHz	100 kW
MN	Buhl	92.5 MHz	19 kW
MS	Yazoo City	93.1 MHz	4.1 kW
MT	Hamilton	91.9 MHz	850 watts
NY	Ogdensburg	98.7 MHz	3 kW
OH	St. Marys	103.1 MHz	6 kW
PA	McConnellsburg	103.7 MHz	133 watts
PA	New Berlin	88.1 MHz	550 watts
PR	Ceiba	99.9 MHz	3 kW (WIOA booster)
TN	McMinnville	91.3 MHz	1 kW
TX	Bells	92.9 MHz	5 kW
TX	Hallettsville	99.9 MHz	6 kW
TX	Madisonville	100.5 MHz	6 kW
VA	Farmville	92.9 MHz	6 kW
VI	Charlotte Amalie	93.1 MHz	10 kW
WY	Buffalo	92.9 MHz	360 watts (KLGST booster)
WY	Pinedale	101.1 MHz	210 watts

Canceled

KYOU Wendover, NV 102.3 MHz

Seeking FM Frequency Changes

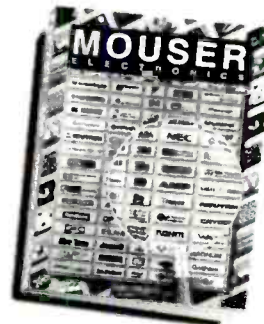
(new)	Bells, TX	92.9 MHz	Seeks 91.1 MHz
KCP1	Albert Lea, MN	94.9 MHz	
KLUH	Poplar Bluff, MO	90.5 MHz	Seeks 91.7, 25 kW
WAEZ	Elizabethtown, TN	99.3 MHz	
WVYC	York, PA	88.1 MHz	

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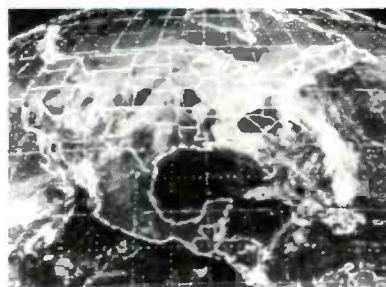
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- Continuously updating activity information window displays the last 19 active channels.
- Channel activity status is displayed in real time with activity log function. To determine system loading when first 5 channels are simultaneously busy, "All Trunks Busy" message is logged to disk.
- Receiver characterization with DELTA COMM™ I-7100 birdie log function automatically logs any receiver birdies prior to a frequency search operation. Birdie channels are then locked out during a frequency search operation, thus eliminating false channel logging.
- Custom interface allows selective program control of relay contact. Possible uses include activating an operator alert, switching antennas via coax relay or turning on a tape recorder when user defined frequencies are found to be active.



DELTA COMM™ I-7100 communication manager comes complete with Delta Research custom (CI-V) communication interface, UL listed power supply, manual and receiver interface cable for \$349.00 + \$8.00 (U.S.) or \$25.00 (foreign) S&H. Contact us for additional information on DELTA COMM™ communication managers for ICOM™ R7000, R71A, R72 and IC735. Performance is proportional to video card, type of computer and receiver squelch detection method.



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Seeking AM Facility Modifications

KABN	Long Island, AK	840 kHz	Seeks to change power
KCMN	Colorado Springs, CO	1530 kHz	Seeks to change power
KSLM	Salem, OR	1190 kHz	Seeks to change power
KQXI	Arvada, CO	1550 kHz	Seeks to change night power
WGTX	DeFuniak Spgs., FL	1280 kHz	Seeks to change power, freq., city
WNVR	Vernon Hills, IL	1030 kHz	Seeks to add night svc.

Changed AM Facilities

KFWB	Los Angeles, CA	980 kHz	Increased to 50 kW
WWIS	Black River Fls., WI	1260 kHz	Reduced power

Changed FM Frequencies

KMGX	Rio Dell, CA	107.3 MHz	moved to 107.5 MHz
WKBI	St. Marys, PA	93.9 MHz	moved to new freq.
WQAQ	Hamden, CT	88.3 MHz	moved to 98.1 MHz

Pending AM Call letter Changes

New	Old	
KJAZ	KORV	Oroville, CA
WQUN	WXCT	Hamden, CT

Changed AM Call Letters

New	Was	
KJFF	KJCF	Festus, MO
KKTK	WACO	Waco, TX
KMXA	KYBG	Aurora, CO
KZKL	KNOS	Albuquerque, NM
WECR	WJTP	Newland, NC
WGWV	WMAK	London, KY
WILP	WXPX	W. Hazleton, PA
WILT	WPMR	Mt. Pocono, PA
WKQV	WARD	Pittston, PA
WNMX	WIST	Charlotte, NC
WOBX	WCRJ	Jacksonville, FL
WQTM	WRTM	Pine Hills, FL
WRCV	WGRD	Grand Rapids, MI
WRLZ	WHBS	Eatonville, FL
WRTM	WVIX	Vicksburg, MS
WSPT	WSPO	Stevens Point, WI
WTAU	WKGX	Zion, IL
WVAX	WWJY	Lincoln, IL
WXRE	WOJY	Hampton, VA

Pending FM Call Letter Changes

New	Old	
KCWM-FM	KRBH	Hondo, TX
KRRR	KRGO	Roy, UT
KRUF	KWKH-FM	Shreveport, LA
WEEK-FM	WIVR	Eureka, IL
WJCO	WUNX	Harwichport, MA
WWKJ	WUNZ	Falmouth, MA

United States of America Army Broadcasting Service Verification Certificate

This is to certify **Ron Reyno** heard and reported reception of the U. S. government test broadcast facility:
Tactical Call Sign(s): Kilo-Tango-Romeo-Kilo, K-TRM, K-Track (47 USC Section 305(c)); International Registry Call Letters: AABS, abbreviated "AIR" (18R Art. 6 Para 34); Transmitting Frequency: 1.670 MHz; Transmitter Power Output: 5,000 Watts (1005 MW).

Classification:	Temporary Fixed	Alphabet Facility:	LBA Technology TUP-J fixed L20 foot panel
Location:	286,000Z (47 CFR Section 1.200 & 1.201)		absolutely folded monopole; frequency agile 1.600-1.700
Coordinates:	N 39° 17' 20"		MHz; non-directional radiation pattern; 120 radiata of
	W 76° 56' 55"		total 150 foot length with 3 degree spacing.
Period of Operation:	5-8 February 1996		
Official Sign-on:	1146 EST (1646 UTC) 5 Feb 96		
Official Sign-off:	1654 EST (2154 UTC) 8 Feb 96		
Transmitting Facility:	Mod: Harris GATES FIVE PA		
Alternate-Mod:	Harris GATES FIVE PA		
(Both Frequency Agile: 530-1.705 MHz)			
Modulation:	F3T 753/755		
Frequency Monitor:	Behl AMM-4		
Splitter Monitor:	Delta Electronics EM-1		
Processing:	Orban 9100B/1 (with NRSC)		

Donald E. Browne
MR DONALD E. BROWNE
Project Manager

PA Hansen
COLONEL THOMAS A. HANSEN
Director, Army Broadcasting Service

The U.S. Army's experimental expanded-band broadcasts last February caught a lot of DXers by surprise. Perhaps just as surprising were their elaborate QSLs—a welcome change of pace from the bare-bones acknowledgements that many stations send out today. (Courtesy Ron Reyno, VE3RYN, Mississauga, Ontario)

gramming, should CBC radio and television stop competing with commercial stations, and air more symphony concerts, more serious dramas, more documentaries, more of the high-quality cul-

tural programming no other broadcaster provides?" Concentrating its evermore limited resources on that niche, the Journal argued, may require the CBC to abandon coverage of local news in urban areas

or eliminate French-language local TV news. The CBC is facing hard choices in an era when calls for greater fiscal responsibility and accountability at the federal level are redefining what government can—and cannot—do.

Radio Entrepreneur Murdered

Michael Taylor's dream was to start a radio station that would serve minority communities in South-Central Los Angeles. In the end, that dream became a nightmare, with Taylor shot to death execution-style in a vacant lot.

The community activist and former talk-show host had spent his last three months organizing the launch of L.A. Liberation Radio, a micropower station that he hoped would unite area minority groups. "I want to use the alternative airwaves as a tool to bring out not only my ideas, but other people's ideas from my community and other communities," Taylor, 45, said during his show on KPFK-FM. "I want to talk about what they face and hopefully come up with solutions to make things better."

Taylor had hoped to accomplish that

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New FM Call Letters Issued

KAQE	Martinsville, LA
KAQF	Clovis, NM
KBNU	Uvalde, TX
KTRQ	Quincy, WA
KTSN	Elko, NV
KUFN	Hamilton, MT
WAAE	New Bern, NC
WAIJ	Olivebridge, NY
WAOD	Alberta, VA
WAQC	Brunswick, GA
WBFM	Sheboygan Falls, WI
WBGM	New Berlin, PA
WFOV	Chatom, AL
WKHC	Dahlonega, GA
WMKR	Taylorville, AL
WMOC	Lumber City, GA
WVTW	Charlottesville, VA

Changed FM Call Letters

New	Was	
KAZY	KKWM	Winfield, KS
KBGO	KEYV	Las Vegas, NV
KBXB	KSTG	Sikeston, MO
KFIE	KZFT	Merced, CA
KKBY	KJUN-FM	Eatonville, WA
KKLD	KDTK	Prescott Valley, AZ
KKUL	KFGE	Lincoln, NE
KLCV	KFBN	Lincoln, NE
KLLC	KRQR	San Francisco, CA
KLPR	KSCV	Kearney, NV
KMXA-FM	KMXA	Minot, ND
KMXB	KJMZ	Henderson, NV
KPHS	KPLN-FM	Plains, TX
KPLN	KMKX	San Diego, CA
KQMX	KCLI	Clinton, OK
KROG	KYJC-FM	Grants Pass, OR
KRTO	KMQA-FM	W. Covina, CA
KSYY	KBZX	Falbrook, CA

KZEZ	St. George, UT
WAMO-FM	Beaver Falls, PA
WBBE	Gifford, FL
WBHK	Warrior, AL
WBYY	Somersworth, NH
WCEL	Plattsburg, NY
WCTA-FM	San German, PR
WDGF	Middletown, RI
WDRE	Jenkintown, PA
WECR-FM	Newland, NC V
WFBY	Clarksburg, WV
WGAY	Washington, DC
WJCY	New Pt. Richey, FL
WJJJ	Pittsburgh, PA
WJZI	Milwaukee, WI
WKCH	Whitewater, WI
WKQV-FM	Olyphant, PA
WLIR-FM	Garden City, NY
WLRI	Westhampton, NY
WNDR	Alachua, FL
WNKS	Charlotte, NC
WNMX-FM	Waxhaw, NC
WNYQ	Queensbury, NY
WOCR-FM	Salisbury, NC
WOLI	Easley, SC
WOLT	Greer, SC
WOSN	Indian River Spgs., FL
WOSF	Bedford, NH
WRLZ	Eatonville, FL
WRQR	Wilmington, NC
WSFQ	Peshtigo, WI
WSJW	Louisville, KY
WSPT-FM	Stevens Point, WI
WSWJ	Crossville, TN
WWFH	Freeland, PA
WXLJ	Spangler, PA
WXLN	Eminence, KY
WXPS	Shepherdsville, KY
WZCH	Vergennes, VT
WZCO	Dundee, IL
WZSH	Crown Point, IN
KSGI-FM	Bellows Falls, VT
WXDX	
WKQS	
WLBI	
WRDX	
WCFE-FM	
WRPC	
WOTB	
WIBF-FM	
WECR	
WKKW-FM	
WEBR	
WLPJ	
WNRQ	
WQFM	
WISQ	
WKQV	
WDRE-FM	
WLRI-FM	
WFJZ	
WEDJ	
WNMX	
WSRQ	
WNDN-FM	
WXWX	
WSPO	
WAEE	
WAEF	
WHBS	
WROR	
WJMR	
WQLL	
WSPT	
WEGE	
WQBQ	
WXVE	
WXLN-FM	
WEHR	
WWGT	
WABT	
WWJY	
WBFL	

project by setting up a micropower radio station—an unlicensed, home-brew set-up that broadcasts on an open frequency of its own choosing. The stations, which typically run less than 100 watts and cover a few square miles, are often the result of a grassroots effort to serve a community or group of people that organizers believe are being shortchanged by larger, mainstream media.

But in Taylor's case, that effort turned deadly, apparently because of a dispute over the transmitter that was to be used for L.A. Liberation Radio. According to one of his technical partners, Taylor withdrew his support in April after a falling-out with others in the group over how the project was evolving. The station's financiers, who wanted to continue, demanded that Taylor hand over the \$1,200 trans-

mitter—or else. Taylor said he'd received threats that "things are going to get rough," according to one friend. The following night, Taylor was visited by three men, who persuaded him to leave with them. An hour later, gunshots were reported in the area where Taylor's body was later found, hands bound and shot repeatedly. The three currently await trial on charges of kidnapping and murder.

Taylor's determination may have blinded him, say his friends. "I think Michael was so concerned about the welfare of other people that he overlooked his own security," one friend told the Los Angeles Times in an article sent in by L. Mark Lussky, of Los Angeles. But another who talked to Taylor on the last day he was seen alive said that Taylor was aware of how serious the situation was. "I asked

him if someone was going to kill him, and he said it was possible."

His legacy may live on, thanks to friends, who say they plan to see the project through in spite of fears they have for their own lives. "We are definitely still moving ahead," said Mzee Shambulia, Taylor's partner in L.A. Liberation Radio. "There is no doubt about that," he told LA Weekly. "More so now."

Throwing Curves

What constitutes a radio station and how operating in the public interest can affect that definition are at the heart of a dispute over a Fort Lee, New Jersey translator. Jukebox Radio provides oldies music and local news to Bergen County, the largest county in the U.S. without its own FM sta-

tion. But a funny thing happens on the way to the market. Jukebox originates at studios in Dumont in northeast New Jersey and sends its programming via cable to WJUX-FM, some 60 miles north in Monticello, New York. WJUX's signal is then picked up and rebroadcast by W232AL, a translator 50 miles to the south in Pomona, New York, near the NY/NJ border. Finally, W232AL's signal is picked up and rebroadcast by another translator, W267AQ, 20 miles south in Fort Lee, a short hop across the Hudson River from Manhattan. So what's wrong with this arrangement? It depends on who you ask.

Jukebox's owner, Jerry Turro, had long sought to give Bergen County a voice in the FM band. But since the county is next door to the New York metro area, usable open FM channels haven't been available since the 1950s. Turro first tried to persuade the FCC to change its rules prohibiting programming from originating at translators, which aren't stand-alone broadcast operations, but essentially a transmitter and antenna that rebroadcast a signal picked up off-air in order to allow the station where the programming originates to expand its coverage. When his efforts failed, Turro devised a system of sending Jukebox to WJUX, owned by a friend of his, and then relaying it to the Bergen County market via the two translators, both of which he owns. It's a meandering way to deliver programming, but it works.

What has Jukebox's competitors upset is that W267AQ, in spite of its 34.5 watt power, can cover the lucrative Manhattan market, thanks to its location. That has raised questions about whether Turro's real aim is to cash in on ad revenue from businesses who can't afford to advertise on New York City stations. Even more upsetting, though, is what they perceive as Turro's blatant violation of the FCC's rules. WVNJ-FM, in the Bergen County town of Oakland, filed a complaint with the FCC charging that Jukebox Radio is "making a mockery of the Commission's rules prohibiting programming from originating at translators. Jukebox's method of bouncing its signal off a radio station and two translators to reach its intended market is, according to WVNJ, the tail wagging the dog." The Commission agreed with that assessment and ordered Turro to stop sending Jukebox programming to WJUX or quit rebroadcasting WJUX on his two translators. Turro has 60 days to make his decision, but he may seek to challenge the ruling and rewrite the program-origination rule.



Winchester, Virginia's WINC-AM may be a small station, but it can hold its own against giants like WSM—a teenage Patsy Cline sang at the station in the early days of her career. (Courtesy Sue Wilden, Columbus, Indiana)

News in Brief


Fresh from revamping New York City's WKTU, Evergreen Media is turning their attention to a couple of their Chicago stations. WLUP-FM will add rock music at the expense of talk programming, according to reports in the Chicago Tribune, sent in by Elmer Wallensen of La Grange Park, Illinois. Sister station WMVP has dropped its low-rated sports talk programming in favor of simulcasting WLUP, including the Windy City's top jock, morning man Jonathan Brandmeier. Evergreen recently bought WPNT-FM for \$68 million, giving the company six FM and two AM stations in the market. Evergreen says it plans to sell WEJM-FM in order to get back under the FCC's ownership cap. Meanwhile, rumor has it that Westinghouse will move its successful all-sports format from

WSCR-AM to WMAQ-AM and make WSCR an all-business outlet.

Electronic newspapers and computer software could be available via your TV set as early as next year, thanks to an FCC ruling allowing TV stations to piggyback digital data on their broadcast signals. Although field tests are still being conducted and potential applications for the data services are continually being dreamt up by a handful of developers, the industry and the FCC are optimistic.

Thanks!

What's happening on your local radio dial? Your news clippings, shack photos, bumper stickers and QSLs are always welcome. Thanks to those who have written and sent in material for our column! Until next month, 73s. ■



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CIRCLE 74 ON READER SERVICE CARD

Product Spotlight

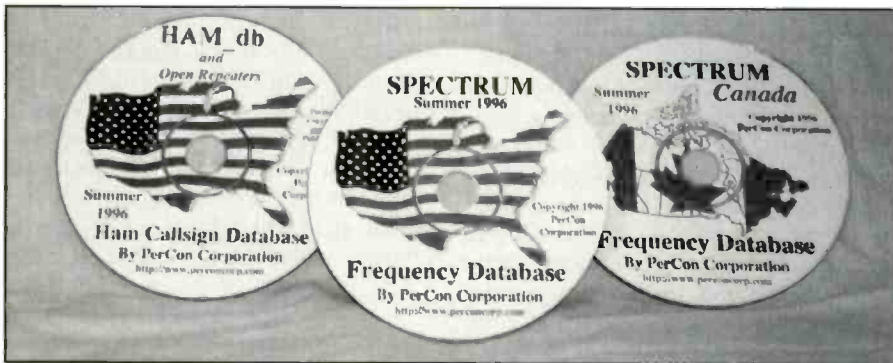
BY W. W. SMITH

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16 MB of memory and a 540 MB hard drive. I am currently using the Windows for Workgroups 3.11 operating system with Microsoft's 32 bit extensions. The CD-ROM I have installed is a common double speed unit. Given the current range of systems available today, this runs about in the middle of the pack between the base system recommended by PerCon and the high end systems that can be purchased today. Installations of the Spectrum CD was a completely painless process. I simply inserted the CD-ROM into my drive and directed the system to find its "executable" file. Shortly I was gifted with the Spectrum CD's "front end" program. This is a powerful database engine developed in the FoxPro Database Management System. The program graphics are very well thought out to provide an intuitive look and feel to the first time user. No manual was supplied or required. The program's design and series of "Help" screens got me right to work.



PerCon Corporation's Ham Callsign Database, and Frequency Database for U.S. and Canada.

There's no doubt that computers have had a dramatic effect on our radio hobby. Hobbyists can now have access to massive amounts of raw data about stations and frequencies. The real trick though, is being able to have access to all this data in a convenient and useful format. The PerCon corporation has taken full advantage of current personal computer technology to provide the hobbyist with a series of CD-ROMs that can extend the users ability to quick data access and management.

Spectrum is an FCC Frequency Database of the entire United States. It contains over 3.3 million records (all FCC licenses—all frequencies) on CD-ROM. Each of these records contains 15 different fields of information. This is fairly comprehensive for practical hobby level use. We'll discuss these a little later.

Spectrum is currently available for use with DOS (3.1 or higher), Windows (3.1

or higher), Windows 95, NT and Mac (System 7 or higher) operating systems. This is fairly wide support for a hobby level product. The preferred IBM compatible PC should have a 386 or higher processor, a VGA or better monitor for Windows or CGA for DOS, a minimum of 4 MB of hard disk space and a minimum of 4 MB of RAM. If you are a Macintosh user you will require a color monitor capable of displaying at least 16 colors, 4 MB of hard disk space and 4 MB of RAM. Of course this program requires that either computer system be equipped with a CD-ROM drive. Also, both systems benefit from having a mouse and printer. In an time when software is often only written for one platform, it is refreshing to see a company actively supporting both major home computer systems and five major operating systems.

My test system for this article was a 60 MHz Intel Pentium-based machine with

Search Strategies

Spectrum allows the users to search its database using several different strategies. You can search by a Frequency or a Frequency range. You can find records of all frequencies in a particular city or county. You can search by callsign, company name or FCC Radio Service Code. If you haven't committed the 100+ RS codes to memory, no problem. Spectrum allows you to call them up from reference to either screen or printer. You can also reference the FCC Class of Station or CS codes in the same manner. These two references can be used with the data on the Spectrum CD or they can be viewed to compare with data from any other resource that confirms to these standard codes.

What It's All About

Now a bit about the database itself. The over three million records are organized to include: Frequency, Callsign, Class of

Station Code, Radio Service Code, Company Name, Transmitter City, County, State, Latitude & Longitude and number of units for vehicle, marine, aircraft, portable and pager use. Each record contains these 15 fields of information. The database includes records for police, hospitals, fire, EMS, state and local governments, businesses, airlines, theme parks, commercial broadcasters and many other services. The system supports query, multi-browse screens, printed reports and export to a UFDBF File.

The PerCon disks couldn't have arrived at my shack at a more opportune time. My family was about to embark on a two-week long camping trip that would take us to five campsites in three different states. I had a very good idea of the major public service frequencies for along the route from previous travel. However, I wanted to dig deeper and check out all the local signals that I could find in each of the locations that I would call home along the way. While the kids are off to the pool and the wife is reading her latest trashy novel, I like to relax and listen in on the world that the scanner opens to me. It was a simple matter to conduct a series of searches by

city and state to get a good idea of all the signals that my scanner could sniff as I sat at my campsite. It was a simple matter to isolate the useful information and print out a few lists for each leg of my trip. This was much less cumbersome than carrying several large frequency books along on the trip. The custom made listings gave me hours of relaxation during my vacation.

Many other uses come to mind. I use one scanning receiver that is outfitted with search and store functions. This is a very useful, but often confusing feature. Just because you can identify a frequency as being active does not mean you can identify the user. The Spectrum CD-ROM brought new life to my search/store activities. It was a simple matter to conduct frequency searches of the dozen or so "unknowns" that most searches would discover. It was fairly easy to make educated guesses from the resulting reports. This is also a useful tool when propagation oddities bring in unusual signals to normally well-known frequencies. When signals begin to skip, the Spectrum CD-ROM can help the user quickly figure out who might be traveling into his or her scanner from extraor-

dinary distances. If you can catch a CW ID or callsign, so much the better as this too is a searchable field under the Spectrum system. Another feature that got surprising use was close examination of the latitude and longitude fields. I have a close friend who is a dedicated Disney World scannist. However, many of the radio transmitters used within the Disney operation are licensed under company names that don't always identify their relationship to the Disney organization. It was an easy matter to bring up Florida and examine areas based upon references to location.

Many operations such as the "Reedy Creek Improvement District" were found. The Disney operation can try to disguise itself, but a dedicated scannist armed with the Spectrum CD-ROM can find "The Mouse" wherever it hides. On a more local level, I've used this feature to figure out who belonged to a couple of antennas I've spotted on my way to a from work.

The point is that 15 fields of data that can be directly searched six different ways can allow a sufficiently inquisitive scannist to discover just about anything there is to hear as well as a great deal about



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each signal that arrives at his or her shack. If your hobby is listening to your receivers, you don't want to spend most of your time thumbing through books. The Spectrum CD-ROM speeds up the research aspect of the hobby to allow the user more time to enjoy listening and, more importantly, understand exactly what is being heard.

Some advanced scanning systems such as the AOR 8000 and scanning receivers that are outfitted with the Optoelectronics OS456 or OS535 boards, can make direct use of the Spectrum's files. This saves a lot of wear and tear on your fingers when it comes to loading in hundreds of frequencies. Advanced monitoring devices such as the Optoelectronics Scout and Xplorer can also make direct use of Spectrum data files.

The Regional Series

Incidentally, if your needs go beyond that of most hobbyists, you may want to consider another PerCon product, The Regional Series. This is a set of CD-ROMs that covers the US (all FCC licenses—all frequencies). Each has over 72 fields of data. It is the most comprehensive dataset available, with the most powerful search-engine available. Program runs under Windows/Windows 95/NT. This is an advanced hobbyist and commercial level product. Each Region is \$129.95 + \$7.50 S&H (two-day service). Additional Regions can be purchased for \$99.95 + \$2 S&H (two-day service) Regional Series Set of six Regional CDROMs—Full U.S. coverage for all frequencies. \$550 + \$10 S&H (two-day

service). While this product line is beyond the scope of most hobbyists, I present it as a "state of the art" alternative.

If you live or do business in the "Great White North" you will appreciate the Spectrum/Canada CD-ROM. Similar in information and scope to the United States version of Spectrum, Spectrum/Canada gives the user access to over 500,000 records.

SPECTRUM/Canada has licenses for all of Canada excluding military and federal government. The CD-ROM is only available for the DOS (3.1 or higher) and Windows (3.1 or higher) formats. Hardware needs are the same as those for the United States version of Spectrum. Each record in the Spectrum/Canada database includes fields for Frequency, Callsign, Company Name and ID, Transmitter Location, Latitude & Longitude, SIC Code, and Engineering Data. The program allows for searches by Location, SIC Code, Callsign, Company Name and Frequency or Frequency Range. The data can be displayed on screen, printed or exported to a UFDBF file. The look and feel of the product is almost identical to the United States version of the Spectrum CD-ROM. I did not have occasion to travel to Canada during my evaluation of this product, but I do get North of the border often enough to justify a need for such a product.

Pop'Comm P.O.

(from page 6)

be said that I was surprised to find much of the same profanity, threats and general stupidity in amateur radio that caused me to give up on CB. The main difference I could detect was in the level of equipment sophistication and snobishness. Anyone doubting this should spend some time monitoring 80 meters, specifically between 3875 and 4000 kHz, SSB. If hams do not do a better job of self-policing, then they should not complain if their hobby is referred to as dead or terminally ill.

Radio will always be my hobby, regardless of the few who seek to abuse it. I seriously doubt that you will print this, since the majority of your staff are hams, but I hope you will accept my criticism in the spirit which it is given.

Roger, KAFA-5801
Hohenwald, TN

Dear Roger:

CB and amateur radio operators are no different than doctors, lawyers or general contractors; they're people from all walks of life with different values and viewpoints. That, of course, is what makes our radio hobby—our world, so interesting. It sure would be boring if everyone had the same philosophy, wouldn't it?

You're right, Roger, the majority of people in BOTH amateur radio and CB radio are caring and fair-minded, but, like any other hobby, what hurts us most is that "one bad apple." Like driving; good operators aren't that hard to find, but when you encounter a bad one, look out, because you'll remember it a long, long time.

I've always maintained—and long before the Technician Class became reality—that our hobby is supposed to be about challenges, having fun and expanding our horizons. I remember reading many radio club publications after which I'd put the newsletter down and getting the nagging gut feeling that the same people who were trying to have fun, were the same folks who were putting people into convenient castes, either because they were "only radio listeners, and not real DXers" or because they were "just CBers" who either loathed AM operation and weren't into SSB. It's those same folks who insist on inflicting rude, negative comments on other operators, regardless of service, who are doing irreparable damage to the hobby; damage you won't see today or tomorrow, but in the months and years to come when we ask, "Where have all the radio hobbyists gone?" ■

Hams, Too!

The folks at PerCon haven't forgotten the amateur radio enthusiast in their drive for data availability. Their Ham_db and Open Repeaters CD-ROM are tools designed for use by hams. This CD-ROM really combines two resources into one. First is a comprehensive database of United States amateur radio operators. Each record includes fields for Callsign, Previous Callsign (important in this new world of "Vanity Callsigns"), Name, Address, Date of Birth, Latitude & Longitude, Current and previous operating class and a whole series of fields I never knew the FCC kept (I have an FCC file number and so do you if you're a ham). There are also fields for Club, Military, Radio Amateur Civil Emergency Service (RACES) and Alien licenses.

Searches can be conducted by Callsign, Previous Callsign, Name, City, County, Zip code or Latitude and Longitude. The database also includes over 10,000 records for the various "open" repeaters that can be found across the country. This also came in handy on my recent camping trip. I was able to identi-

fy friendly ham radio diversion wherever I went. System requirements for the IBM compatible and Macintosh computers are the same as those for the Spectrum CD-ROM for the United States listed at the beginning of this article.

A Word About Latitude and Longitude

You have probably noticed that the entire PerCon series of CD-ROMs makes a point of including latitude and longitude fields in their respective databases. This is for good reason. One of PerCon's newest products is Geo_db. Geo_db is a Street Level Geographic Database System for use with all PerCon Databases.

Transmitter locations in Regional, Spectrum, and UFDBF files can be displayed in Geo_db. Geo_db also supports address data which is Geocoded, along with latitude/longitude/description files. Icons for each data element can be clicked and data for each location can be displayed. The system is a full U.S. geographic system utilizing the latest U.S. Department of Commerce TIGER map data. Users can zoom in to street level data and zoom out to the State/County data level. Geo_db is completely configurable. Data layers, such as roads and streets, can be displayed at various zoom levels. Colors, fills, and labels can also be controlled by the user. Geo_db is a core product that will be used as the Visual Display for many current and future products. The first is Visual Wave Links by PerCon, a Computer Control Scanner program with a Geographics Display. PerCon will also support Visual Geographic displays for the Optoelectronics Xplorer, Agrelo DFjr and the AEA IDR-96. Geo_db/Xplorer will allow the display of frequency and location data. The user can click data-points and the display will show coverage circles. This data can then be compared to known sites for visual identification. Geo_db/DFjr will support GPS and bearing data for geographic display.

Geo_db/IDR-96 will display GPS data and geographic location on the visual display. The price for Geo_db is \$69.95. Typical add-on packages will cost an additional \$30 (they will require Geo_db).

As you can see, PerCon is committed to assisting the radio hobbyist in the emerging area of computer assisted scanning as well a whole new approach to geographic supported scanning. These products represent the beginning of the next great wave in radio listening. Hang on, it's going to be quite a ride. ■

DRAKE **SONY** **JRC** **dressler** **LOWE**

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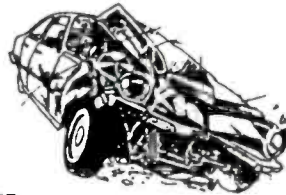
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CB Scene

BY JOCK ELLIOTT, SSB-734

27 MHz COMMUNICATIONS ACTIVITIES



Install This Antenna Anywhere!

The best CB radio in the world isn't worth two cents without an antenna. No kidding—the antenna is the key ingredient in the "radio system." Dr. Rigormortis, who at one time published the *Eleven Meter Times and Journal* (it's now defunct), once said, "If I had \$1,000 to spend on a CB set-up, I'd spend \$990 of it on the antenna."

The good Doctor may have been overstating the case just a trifle, but his point is well taken: It doesn't matter how fancy your CB transceiver is, if you don't have an antenna, you're not going to do any CBing. But if you look around, you'll see a number of places—particularly for mobile CBing—where it's tough to install an

antenna. For example, truck mirror arms, luggage racks, motorcycle frames, boat side rails, and motor home and van sides all present a bit of a challenge, and some of these are tougher than others.

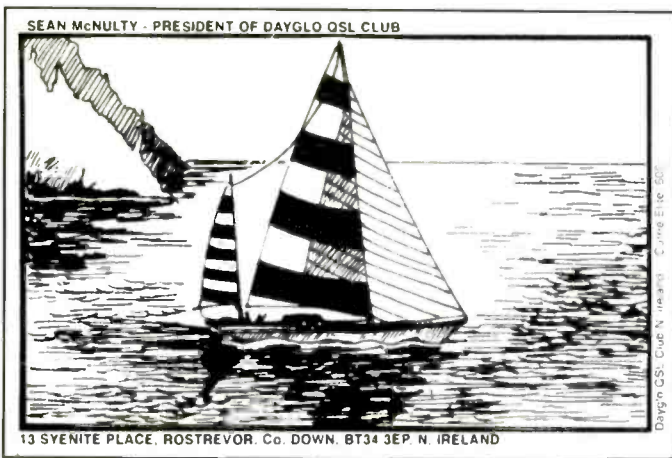
Of course, these antenna mounting problems have been solved in the past, but very often it requires finding a mount from one company, a spring someplace else, the antenna itself from another manufacturer . . . well, you get the picture.

Well, there's good news—if you've been dying to equip your boat or bike or whatever with a CB, the good people at Firestik Antenna Company have come up with a neat solution. The Firestik 40-Channel No Ground Plane Antenna in-

cludes everything you need in one package: one of Firestik's famous bare-hands tunable Fiberglass antennas, a shock-absorbing spring, a stainless steel "universal mount" that looks like it could probably solve most mounting problems, and 17 feet of coax cable. There's even a free microphone hanger included with the kit.

Most mobile CB antennas require some sort of significant reflective ground—like the metal roof of a car—to work properly. The Firestik No Ground Plane antenna does just what the name says, it works independent of any ground. While this antenna was designed with fiberglass recreational vehicles in mind, it will also work in any application that lacks a

Trevor Fletcher sent in these spectacular cards from Sean McNulty in Northern Ireland.



ground, such as boats, bicycles, motor-cycles, ATV's, and go carts. I haven't tried it, but it looks to me like this would make a dandy back-up antenna in case bad weather takes down your base antenna, and it would probably work pretty well clamped to the railing or window sill of an apartment. (Of course, a full-size base antenna is always preferable, if you can put one up.)

The new Firestik kit is available in two, three and four-foot models, and the list price ranges from \$33 to \$38 depending upon the model. The antenna itself is guaranteed for five years, and all the other bits and pieces are guaranteed for a year. For information about where you can buy one of these kits, or for a copy of Firestik's excellent catalog, write to Firestik, 2614 E. Adams St., Phoenix, Arizona, 85034-1409, or call 602-273-7151. Tell 'em you read about it in *Pop'Comm*.

Sommer Introduces DC to Daylight Antenna

Sommer Antenna has come up with an idea that definitely deserves some further attention: a disconical antenna that requires no ground area and covers all the HF ham bands, CB, 6 and 2 meters for transmitting and receiving, plus receiving from 400 kHz to UHF! This antenna, called the DCL280, is 23 feet high, 13 feet in diameter, and will mount on a pole six to 20 feet off the ground.

Constructed of wire and aluminum, the DCL280 needs only a mast and no guy wires for support. Vertically polarized at CB frequencies, it requires no ground radials, handles up to 5 kilowatts transmit power, and needs no tuning above 13 MHz. Sommer claims it can be erected in a backyard or on a flat roof by just one person. For the CBer who's also into hamming, SWLing, or scanning, this could be an all-in-one antenna farm.

The only drawback is the price: a whopping \$490, not including freight. For detailed information, contact Sommer Antennas, P.O. Box 710, Geneva, Florida, 32732 or call 407-349-9114; e-mail: <sommer1@ix.netcom.com>.

The SKYWARN Program

Severe weather can be both fascinating and devastating. The grandeur of nature in action can kill and destroy. To try to help prevent loss of life and injuries resulting from severe weather, the National Weather Service issues severe weather warnings and watches through-



Donald Aspinall's shack is extremely well equipped for emergency monitoring.

out various parts of the country as they are needed. (A terrific, and fascinating source of information, particularly when dangerous weather threatens, is a Weather Radio that receives the broadcasts from the National Weather Service. If you don't have one, I recommend purchasing one immediately).

Even though there have been tremendous advances over the years in spotting dangerous weather—weather radar, Doppler radar, and so forth—human weather spotters are still needed. That's because there are things that radar simply cannot detect, and there are situations—in moun-

tainous terrain, for example—where radar cannot see all that needs to be seen.

That's where SKYWARN comes in. It's the national organization of volunteer weather spotters run by the National Weather Service. SKYWARN's goal is to spot dangerous weather, such as tornadoes, damaging winds, hail, flash and flash flooding, and report them to NWS so that warnings can be issued.

As a CB radio operator, you can be part of SKYWARN too. I've been a member of SKYWARN for several years, and I find it exciting and rewarding. To receive certification as a SKYWARN spotter, you

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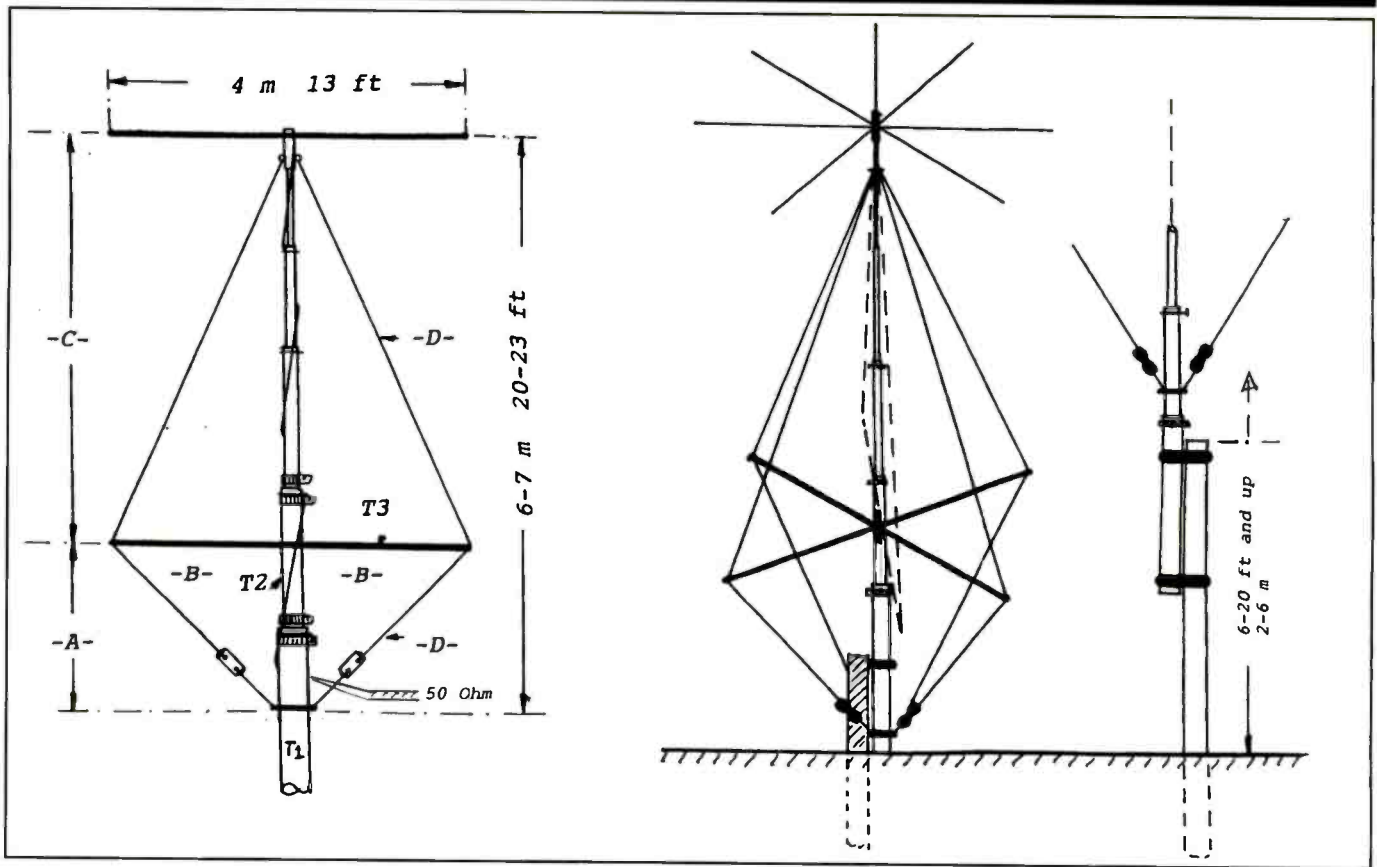
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The Sommer Antenna DCL280 provides incredible coverage in one antenna, but at a hefty price.

must attend a SKYWARN training session and periodically attend additional training sessions to keep your certification. Most of the SKYWARN training I have attended lasted two to three hours and included some fascinating videotapes of severe weather.

To find out more about SKYWARN, contact your local office of the National Weather Service; or call NWS headquarters at 301-713-0090 and ask how you can become involved in SKYWARN.

The make-up of SKYWARN may vary in different parts of the country. For example, where I live in upstate New York, it was a hams-only organization until I got involved. Now, both hams and CBers participate. Other places, CBers predominate. So don't be shy: all are welcome.

From the Mailbag

Donald Aspinall wrote from Virginia to say that he is the only REACT member between Richmond, and Newport News. He spends upwards of 200 hours per month monitoring emergency response frequencies including CB Channel 9, aircraft emergency frequencies, the marine emergency VHF frequency, and the GMRS emergency frequency.

He goes on to say that he endorses the idea of the Citizens Radio Corps. The CRC is an idea I proposed a few months ago. It's mission would be to monitor the emergency frequencies listed above (as well as 146.52 MHz, a ham simplex frequency), and to identify and seek to remedy sources of interference to those frequencies only (I don't propose to try to clean up all of CB or any other radio service). Aspinall then goes on to ask, "Why don't we all go to REACT and become one big organization?"

The short answer, Donald, is that while many REACT teams do a good job of monitoring and responding to emergency frequencies—and I am very impressed by the dedication of many individuals like you—no one in REACT, to my knowledge, has proposed seeking to act as auxiliary to the FCC in protecting those emergency frequencies and eliminating interference to them. I think it is needed. The FCC is downsizing, cutting its enforcement activities, and recently the marine VHF frequencies were delicensed. It's going to get tougher to get emergency communications through.

The idea for the CRC stems from a personal incident: I was monitoring Channel 9 one day and a call came through. Every

time I tried to find out what type of help the distant breaker needed, splatter from Channel 13 wiped out the signal. I went to Channel 13 and asked, politely, if they could back it down for a while because they were some folks on the road who needed help. The fellow from Channel 13 then told me to go do something that was anatomically impossible!

Of course, I was annoyed, but I also realized that, once you've told someone that their splatter is interfering with emergency communications, any further splatter from them amounts to intentional interference. I think we should have the means to put a stop to it. Clearly, it is a low priority for the FCC. The CRC idea is one approach. If anyone has other suggestions, I'd be glad to hear them. Thanks for the letter, Donald!

A Word of Thanks

It's that time of year when we give thanks for the many blessings in our lives. One of mine is the people who read this column, including the many who write and send QSL cards, letters, and shack photos. I read every piece of mail, and I am deeply grateful. Please, keep them coming to me here at *Pop'Comm*. ■

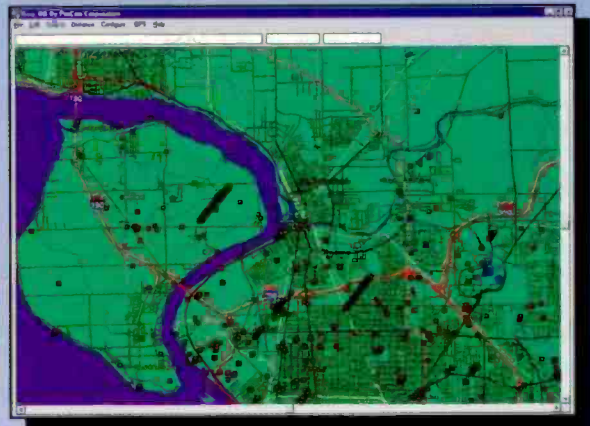
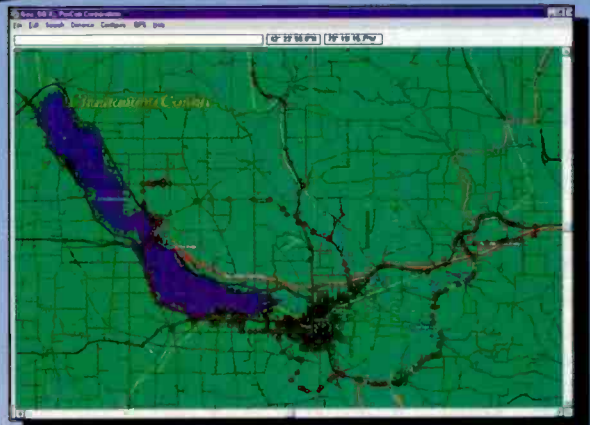
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Communications Confidential

BY DON SCHIMMEL

YOUR GUIDE TO SHORTWAVE "UTILITY" STATIONS

Celebrity Cruisin' and Military News

Carnival Corporation plans to bring over 16,000 berths into the market during the next two years with the construction of M/V Imagination, M/V Inspiration and Carnival Destiny.

Celebrity Cruises will increase that line's capacity from 3,800 to 9,000 berths. The first of a planned three-vessel expansion is the M/V Century. The largest cruise ship in the world will be P 4 O's new M/V Sun Princess. These cruise ships will present new QSL possibilities.

The Military Sealift Command controls about 92 ships in the Ready Reserve Fleet and about 128 ships in the MSC Fleet. There are 20 new ships under contract/construction. The Civilian Mariner force numbers about 5,132 persons.

Coast Guard activities during 1995 included numerous SAR efforts in response to 30,000 incidents. More than 4,000 lives were saved and assistance given to an additional 100,000 people. Value of property saved was \$2.4 billion. Drugs seized by the Coast Guard had an estimated street value of \$2.8 billion.

The Navy and Marine Corps aircraft and ships were also involved in counter-drug operations with support to the Joint Interagency Task Force and Drug Enforcement Agency. This support included participation in 58 counter-drug missions during 1995. In a major drug bust, the USS Salt Lake City (SSN-716) tracked a fishing vessel from Buenaventura, Colombia for approximately 800 miles until she was intercepted by a Navy surface warship with a Coast Guard law enforcement detachment on board. Thirteen tons of cocaine were seized. Another bust took place when a U.S. submarine followed a drug smuggler from South America across the Atlantic. The ship and its illegal cargo were seized and its crew arrested as soon as it put into a European port.

The above items were excerpted from the May 1996 issue of PROCEEDINGS, monthly magazine of the United States Naval Institute.

A press release from Globe Wireless indicates the Lykes Brothers Steamship Company, Inc. has chosen Globe Wire-




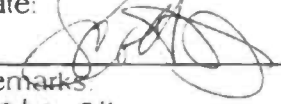
New Carnival Corporation cruise ship "Imagination".

less to handle maritime communications. "Lykes Line vessels, as well as those under charter to Lykes, are now using Global Radio Network public coast stations, operated by Globe Wireless, for their ship to shore needs." "Using the Global Radio Network, ships listen to any one of the Globe Wireless stations, one or more of which can be heard anywhere in the world at any time of the day. Connecting with any one of these channels will allow a ship to receive all messages anywhere in the world, at one price. The system also makes it easy for the shore-side commu-

nicator because the address for the shore-to-ship message is always the same."

In another release, "Globe Wireless announced an agreement with Western Union International, an affiliate of MCI International, Inc., which if approved by the FCC, Globe Wireless will acquire the licenses currently held by WUI for ship-to-shore communications from WCC, Chatham, Massachusetts and KPH, San Francisco. WUI will discontinue its maritime services operations."

This past June a change in command took place at the Coast Guard center in

CEK		420
BEACON		KHZ
This will verify your		Reception of our beacon
Date: <u>March 5, 1996</u>		<u>Scott J. Lorenz</u>
Freq: <u>420 KHZ</u>		Verified by:
Time: <u>0410 UTC</u>		<u>Line manager</u>
Elevation: <u>1499 feet</u>		Title:
Power: <u>25 watts</u>	S T A T I M O N	<u>March 22, 1996</u>
Location: <u>40°57'N 96°56'W</u>		Date:
Antenna Type: _____		
<u>Crete</u>		Remarks:
		<u>Nebraska</u>

Allen Renner, PA shares his PFC with raders.

Martinsburg, West Virginia. Capt. William R. Ashforth replaced Capt. James B. Willis who had been the center's commander since 1993. The center houses various computer systems including the Automated Mutual Assistance Vessel Rescue (AMVER) system which tracks merchant ships for possible assistance in SAR efforts.

Reader Reports

Rick Baker, OH reports that WUN now has 1,000 members in 28 countries.

Allen Renner, PA advises he has received 214 returned verification card requests. "Verifiers for the most part have been very cooperative" Allen said.

Robert Hall, South Africa reported he had observed a considerable amount of traffic this past spring due to the fighting in Bangui in the Central African Republic. There were some 1500 French soldiers in Bangui and they were involved with peacekeeping operations. These signals were all logged on 16262 kHz using ARQ-E3 at 192/390 baud/shift.

1305 hrs RFTJD FF Libreville w/ 5Lgps to RFFUAJ Villacoublay (Paris)

1309 hrs RFTJD FF Libreville w/186 5Lgps to RFFUAJ, RFFXI (FF Bangui), RFI9X1A (Bangui), RFGW (MOD Paris), RFTPA.

1323 hrs PARIS w/A1945 Paris w/ "CdeV" on HAI circuit

1325 RFTJD FF Libreville w/ "FM(GROUP TAM Libreville" to "RFFA/Guerre CENTOPS Paris"

5Lgps

1335 RFTJD FF Libreville w/5Lgps to RFFUAJ Villacoublay (Paris)

All the above are on the Libreville/Paris circuit. French Forces in Bangui (RFFXI) normally transmit on 15860.2 kHz in the ARQ-E mode at 72/388 baud/shift but, strangely enough, no traffic was heard on this frequency during their recent troubles.

I received several questions regarding KC-135 aircraft so I turned to my copy of *World Military Aviation* for the answers. The KC-135E's based at Offutt AFB, Nebraska are in the 55th Wing, 2 ACCS. This unit along with the 1st ACCS, 24th RS, 38th and 343d RS, 55th OSS and 11th AF are all in the 55th Wing which is under the control of the Defense Airborne Reconnaissance Office (DARO). According to the 28-February 1994 aircraft census, there were 159 such aircraft in the USAF including the AFRES and ANG. The KC-135E is a modified version of the KC-135A re-engined with

TF33-PW-102 turbofans.

The breakdown of the above designators is as follows: ACCS Airborne Command and Control Squadron; AF—Airlift Flight; OSS Operational Support Squadron; RS—Reconnaissance Squadron. KC 135Q's were intended as tankers to support Lockheed A-12 and SR-71 (Blackbird) operations. The 135Q version was based on KC-135A's which were modified to include additional communications and rendezvous equipment and some fuel tanks were segregated for highflashpoint JP-7 fuel. The KC-135Q's are possibly used in support of "Black" projects.

UTE Loggings SSB/CW/RTTY/SITOR/etc. All Times in UTC

201: Beacon YKX, Kirkland Lake, Ont., Canada at 0917, 23m. (AH)

212: Beacon TS, Timlins, Ont., Canada at 0847, 692m. (AH)

223: Beacon YYW, Armstrong, Ont., Canada at 0853, 1041m. (AH)

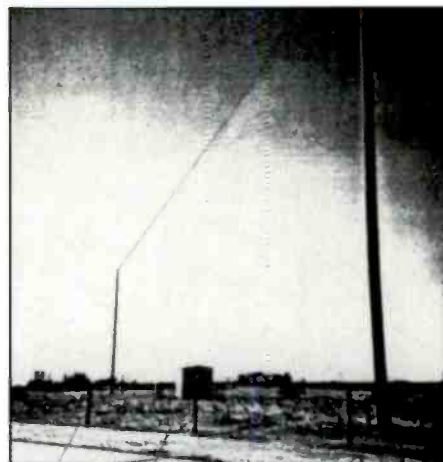
230: Beacon YBM, St. Bruno de Gigues, PQ, Canada at 0854, 294m. (AH)

257: Beacon SQT, Melbourne, FL at 0620, 1070m. (AH)

265: Beacon SXD, Springfield, VT at 0640, 136m. (AH)

272: Beacon OLD, Old Town, ME at 0657, 274m; Beacon PFH, Hudson, NY at 0644,

134m; Beacon W, St. Scholasique, PQ, Canada at 0905, 315m. (AH)



Antenna for NDB CEK, Crete, Nebraska which operates on a frequency of 420 kHz. Photo was supplied by the verifier.

290: Beacon EKQ, Monticello, KY heard at 0235. (WP)

303: Beacon P, u/i at 0550. 3 P's, dash. Sent at 5 wpm. (AH) Poss Point Petre LS, Ont., Canada: (Ed.)

305: Beacon YQ, Churchill, Man., Canada at 0715, 1540m. (AH)

332: Beacon QT, Thunder Bay, Ont., Canada at 0920, 1000m. (AH)

369: Beacon ZDX, St. Johns, Antigua, BWI at 0805, 1776m. (AH)

388: Beacon PV, Turks 4 Caicos, BWI at 0818, 1366m; Beacon NXX, Willow Grove, PA at 0827, 222m. (AH)

398: Beacon G, Windsor, Ont., Canada at 0659, 606m. (AH)



The building with the antenna on the roof is the Egyptian Embassy in Athens, Greece. Photo was taken by Louis Wheeler, CA.



The circular antenna array is a FLR-9 which was used by the 6922nd Electronic Security Squadron at Clark Field, Phillipines. The other antennas are suspected of being the receiving antennas for KWL90, U.S. Embassy, Manila. Photo was taken in 1990 by Tom Severt, KS.

- 400: Beacon PTD, Pottsdam, NY at 0833, 284m. (AH)
- 402: Beacon C, Camaguey, Cuba at 0938, 1442m. (AH)
- 407: Beacon OX, Ocean City, MD at 0837, 301m. (AH)
- 410: Beacon BA, Columbus, IN at 1006, 778m. (AH)
- 424: Beacon RVJ, Reidsville, GA at 0715, 888m. (AH)
- 515: Beacon OS, Columbus, OH at 0852, 630m. (AH)
- 521: Beacon TVX, Greencast e, IN at 0707, 672m. (AH)
- 523: Beacon JJH, Johnstown, NY at 0844, 185m. (AH)
- 530: Beacon F9, Chatham, NB, Canada at 0711, 476m. (AH)
- 1802.85: Pulses heard at 2341. Swedish Navy Hyper-Fix stations Horvik. Sisrishamn, Utlangan. (AB)
- 1944: DGPS stn?, MSG, 100 baud heard at 2143. (AB)
- 2020: Fishermen chatter in AM at 1530, some

XX lang., talk about politics. Rhode Island fish permit, take fish back to CT if RI refuses them. (BP)

2182: PBK, Netherlands CG at 2309 in USB announcing navigational warnings. (AB)

2334.5: Link 11 coordination net at 0500 in USB w/TANGO, INDIA, IP, others. some w/British accents relaying track ID's in Link-11 coordination. Prob related to U.S./British Combined Joint Task Force Exercise 96/Exercise Purple Star 96. (RB)

2423.5: SAB, Goteborg, Sweden at 2220 in SITOR-A. 100 baud, clg EAXK. (AB)

2740.7: DLVD, Customs Launch M/V Kniepsand at 1532 in SITOR-A, 100 baud w/kg German CG Cuxhaven. (AB)

2899: Gander Radio, NF, Canada (NAT, B-MWARA) at 0613 in USB w/kg American 136 w/selcal ck, FK-BE (DC-9 N428AA) and passes conditions for area 55N/40W at FL310 (moderate turbulence reported). (RB)

3273: GSP Dusseldorf at 2130 in ARQ-E 96 baud w/msg to MOI Nordrhe in-We st falen (PHVNW). (AB)

4134: PAVX. HRMS Abraham Crijnsen (F-816). Royal Netherlands Navy 'Kortenaer' - class frigate, at 0508 in USB w/kg NMN, USCG CAMSLANT ChesQpeake, re RTTY t/c coord. (RB)

4154.5: DRDR, German Navy attack sub U-24 (S-173) at 0055 in USB clg/wkg DHJ59, Wilhelmshaven Naval, Germany, w/QLS for t/c sent. (RB)

4310: WNU, Slidell, LA in CW heard at 0420 w/wx. (TS)

4372: GIANT KILLER, USN FACSFAC Virginia Capes at 2108 in USB clg 1XD, 1XD clg GK. no joy either. 1XD clg "any stn this net". (RB)

4880: Mossad bcsf to ULX heard at 2100 in USB. (AB)

5302.4: OLX, MOI Prague, Czech Republic. at ~0256 in CW w/V marker. (PSJ)

5472: Jammer at 1915. Hops to 5460 kHz and back. Same as 4660/4672 kHz. (AB)

5530: Nancy Adam Susan nbrs best at 2000 in USB. (AB)

5598: Shanwick, IRE (NAT-A MWARA) heard at 0553 in USB w/kg Delta 22 w/0551 posrep at FL350: At 0554 w/kg Air Europe 725 at 40N/20W 0550 FL350, 48N/08W next. selcal CS-HQ 4 req FL370. (767-300ER EI-CJB). (RB)

5680: Plymouth Rescue in USB at 0940 w/Shanwick Radio, rdo ck. (AB)

5696: Rescue 6035. USCG HH-60J heard at 0431 w/kg CAMSLANT Chesapeake, NMN, re pp/Miami Op's, the 35 is looking for an activated EPIRB 4 was req do 10 mile "Victor Sierra" (visual search) 4 attempt locate vsls in area to check their equipment, then RTB. At 0546, AGAR 94, aircraft fm 512th TW, Edwards AFB, CA w/kg NMC, CAMSPAC Point Reyes w/numerous rdo cks. Heard at 0556, NMO. USCG CommSta Honolulu w/kg CG 1704 (HC-130H) w/rdo ck. Heard at 1402, Rescue 1504, USCG HC-130 w/kg NMN, w/pp D-5 Command who adv Group Fort Macon is diverting USCGC Aquidneck

QSL-Verification Card-QSL

CONFIRMING YOUR REPORT:

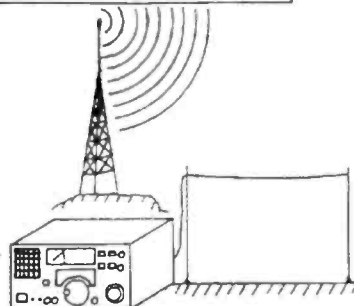
Call-Sign	Date	Time (UTC)	Frequency	Mode
MLAHTA COM. STA	13 APRIL 96	0550	5637	AM
Power	Antenna	Location		
1 KW	DY	BENGHAISA SITE MALTA		

Remarks:

COMMUNICATION CENTRE
MALTA
28 APR 1996
DEPT. OF CIVIL AVIATION

(signature and station-seal, please)
(signature et cachet, s.v.p.)

Boag
i/c COMMS



QSL received from Malta ATC (LMMM) by Costas Krallis of Athens, Greece.



DRAN AUGSBURG (F-213)

THIS WILL VERIFY RECEPTION OF:
FGS AUGSBURG (F-213), DRAN "THE WILD 13"
QN: 6779.0 KHZ USB AT: 0246 Z DATE: 23 SEPT 1994

TRANSMITTER/POWER: 1000 W

ANTENNA: 13 m Stab

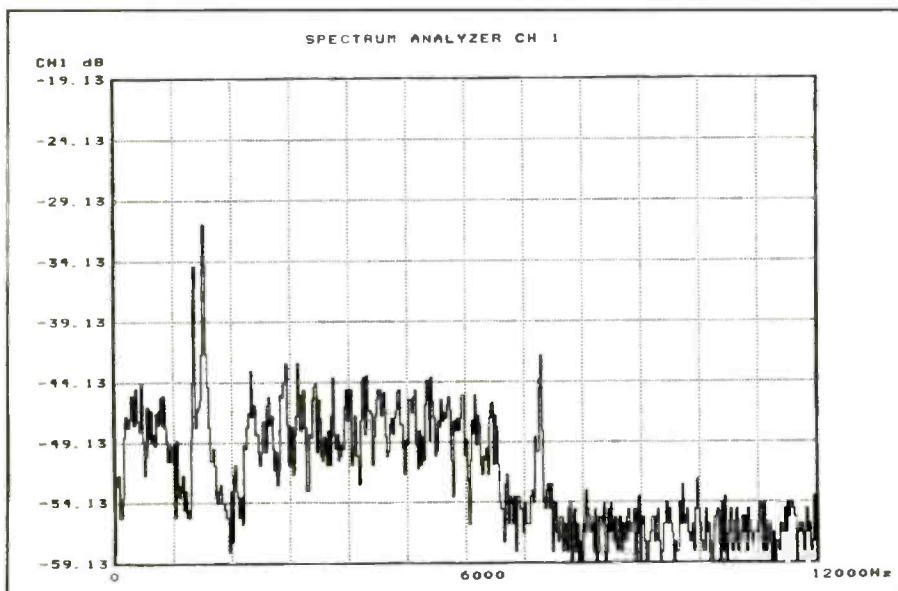
*LOCATION: Southeast Palma de Mallorca
VERIFYING OFFICIAL AND STAMP:

*IF CLASSIFIED. MARK N/A

Rick Baker, OH shares his PFC with readers. This veri is from a German warship.

(WPB-1337) to the search area w/ETA of 1300 local. 1504 also passes info obtained fm vsl in area of the observed radio xmsn, u// SAR. Heard at 1621, NOM, USCG AirSta Miami. FL wkg CG 2139 (HU-25A 'Guardian') w/maintenance items and request for chow from galley upon arrival. (RB)
6263: SGLU, M/V Winter Wave, heard at 0518 in SITOR-A w/AMVER/PR bound Rotterdam. (RB)
6354.9: UULN, Sovship Matvej Muranov at 1910 in RTTY 50/170 w/Odessa. (RH)
6637: Houston, Universal Radio, Houston. TX (NA-OC-LDOC) at 0733 in USB wkg N33GG (Falcon bizjet) at FL410 w/selcal ck DH-GM. (RB)
6719.4: HABITAT heard at 0523 in USB wkg

Navy Line Maintenance re 'Papa Uniform' (Participating Unit) in the Alligator (Link-II net). (RB)
6786: Cut # stn (5F grps) in CW heard at 0801 w/callup 13761. New frequency and time for this stn. (TS)
7363.5: NAV, HQ Navy-Marine Corps MARS, Cheltenham, MD at 2238 in CW w/V's. DE NAV QRL on U.S. Armed Forces Day 1996. (RB)
7535: NTIC, USS Ticonderoga (CG-47), tech control, at 1458 req ck in the green. PCU Gonzales (DDG-66) at 1520 w/tests of several xmtrs. At 1618, USS Pelican (MHC-53) clg SESEF for several mins, no joy, callsign unknown. At 1628, USS Robin (MHC-54) wkg SESEF W/test count, very weak here,



This signal on 9460 kHz, USSB was identified as VFT-F16c. Analysis by Kevin Tubbs, VT.

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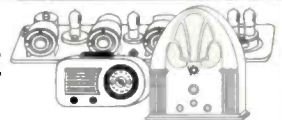
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VERIFICATION OF RECEPTION

LIFTER 91

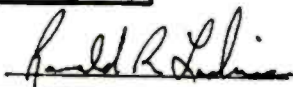
Date	Time (UTC)	Frequency	Mode
17 SEP 94	2145	11176	USB

Aircraft Type	Approx. Xmsn Location	Aircrft Registr #
C-17A	35°N 107°30'W	923291

Aircraft Home Base
CHARLESTON AFB

Ronald R. Ladnier
Lt Col, USAF
Commander

Signature



Official Stamp

Here is a PFC from Steve McDonald, BC, Canada. Steve said "LIFTER 91 was one of the first C-17A Globemasters to be put into service. They were replacements for the aging C-141 fleet. Most of the C-17's from Charleston can be heard using the callsign 'MOOSE... XX.'"

callsign unknown. At 1635, NDWQ. USS Detroit (AOE-4) "Fast Combat Support", clg SESEF repeatedly for rdo ck. app could not hear SESEF answering. Primary mode is USB. (RB)

7957.4: 'TSSOK' u/i at 0305 in CW w/5L grps. off w/DETSSPK'. (PS)

8190: OTH radar at 0632. (TS)

8207: C6LW2, M/S Regal Empress, Royal Caribbean Cruise Lines, 23,000 DWT cruise-ship, at 2346 in USB clg/wkg WOM, Pennsuco, FL for r/T t/c. (RB)

8383.5: 9MCF5. M/V Budi Huda at 1324 in SITOR-A w/svc t/x adv M/V Toscana C6HV3 is now M/V Budi Huda. 9MCF5 effective since 5-10-96, selcal still 61698 and login abbrev is still TOSCA. (RB)

8514: WLO. Movile, AL at 0300 in CW w/CQ DE mkr. (WL)

8525: WNU33, Slidell, LA at 0333 in CW w/CQ DE mkr. (WL)

8532: LZW42, Varna, Bulgaria at 0300 in CW w/t/c list. (RB)

8558.4: KFS, Palo Alto, CA at 0339 in CW w/CQ mkr. (WL)

8573.3: CLA21, Havana, Cuba at 0358 in CW w/CW mkr. (WL)

8682: NMC, CAMSPAC Point Reyes, CA at 0347 w/surface analysis FAX chart, in 120/576, fair, at 0412 w/500MB 12 hr forecast chart, now vy good. (RB)

8903: Kinshasa, COG (AFR-4 MWARA) heard at 0134 in USB wkg u/i flt 053 w/0133 posrep. (RB)

8906: YL/SS in AM at 0607 w/SF grps. (TS)

8921.8: Egyptian Emb, unk loc, at 0029 in SITOR-A w/ATU-80 TFC, selcalls. (RB)

8983: CG 1500, USCG HC-130, at 1525 in USB wkg NMF, CommSta Boston w/report to be relayed to International Ice Patrol, Groton, CT. (RB)

9009.1: U/i at 0157 in USB w 'secure voice comms. (PS)

9018: RFQP, Djibouti heard at 0302 in ARQ-E3 100 baud. French Navy w/"Controle De Voie". (PS)

9032.1: KA6, unknown loc. Heard 0453 in USB. This stn clg unknown for rdo ck in SSIG EE. (PS)

9034: Many USAF 4 RAF a/c's w/radar t/c 4 coordination comms. Joint U.S./British exercise. Hrd 0400 in USB. (PS)

10150.5: AAAOUSA ekg AAR9AQ in 300 baud packet at 0541. (TS)

10313.9: SNN299. MFA Warsaw, Poland heard at 1722 in POL-ARQ 100/250, unable to decode. (RH)

10493.3: RFTJF, French Forces Port Bouet at 1735 in ARQ-E3, 48/417, idling. (RH)

10780: NLTT, USS John Hancock (DD-981), a Spruance-class destroyer, at 1637 in USB

clg Cape Rdo, no joy, app in support of launch of STS- 77. (RB)

11175: Andrears AFB in USB heard at 1930 w/20 char EAM. This same EAM hrd few mins earlier on 311 MHz being xmt'd by 'REGISTER' who then cld 'SHOCKER Control' (McConnell AFB, Wichita, KS) to acknowledge t/c. (TS)

11214: DARKSTAR MIKE. E-3 AWACS. at 1614 in USB wkg Trenton Military wlpw RAYMOND 24. (RB)

11217: DHM91, Munster, Germany heard at 0021 USB. Radiotelephone service. Quite weak. (PS)

11253: MVU, RAF Volmet, W. Drayton heard at 2240 in USB w/ID, "This is Royal Air Force Volmet", first hrd since this latest freq chg. (RB)

11426: IMB, Rome Meteo, Italy at 2350 in RTTY, 50bd. RY's and ID. (PS)

12254: 6MPW. Haenam 502 at 2217 in USB clg/wkg WOM for R/T t/c to S. Korea. (RB)

12300.5: YL/SS in AM heard at 0100 w/334 4 1-0 count. After 10 tones, sent 216 grp 3/2F msg. (TS)

12480.5: 9HWA4, M/V Grigoroussa at 1510 in SITOR-A w/unberthing report for Mississippi River w/28216.06 MT cargo, proceeding Veracruz, login 72050 GRIG. (RB)

12561.5: UVKG, Ukrainian super fishing trawler/freezer RTMS Stratosfera heard at 1725 in 50/170 RTTY w/admin TS's to Sevastapol for ETA Las Palmas fm Master, KM Tsarivnik. (RB)

12564.5: UCBD, Russian long range/endurance large freezer/factory trawler BMRT Kronshadt, heard at 1846 in 50/170 RTTY (MRM/KRH) crew TG's using hull#/ID MB-0356. (RB)

12611.5: KEJ, Globe Wireless, Kahalelani, HI, heard at 0420 in SITOR-B wlstn info, t/c list. (RB)

12691.4: FUX, French Navy Le Port at 1215 in RTTY 75/838. 1st time hrd in RTTY—used to be CW only! (RH)

12745.8: JJC, Tokyo, Japan at 1225 in FAX 60/576 w/JJ newspaper. (RH)

12856.3: 6WW, French Navy Dakar, Senegal at 0522 in RTTY 75/850 w/Lazy Dog test tape in FF 4 EE. (WL)

12876: VAI, Vancouver, BC, Canada. CG stn at 0502 in CW w/CQ mkr, wx and Navigational wrngs at 0230 0630 and 1830. (WL)

12912.6: FFL6, St. Lys, France, marine stn in CW at 0452 w/CQ mkr. (WL)

12932.9: UPZ, Vladivostok at 1237 in RTTY 96/835 w/crypto t/c (not Cyrillic). (RH)

12966: OTH radar at 0117. (TS)

13273: Honolulu (CEP-1/2 MWARA) heard at 0152 in USB wkg u/i flt 411 w/ack of posrep/selcal from IJZ82, adv secondary is 10048 kHz: at 0153 selcal'ing/wkg Northwest 1 w/company release msg: at 0159 wkg Delta 51 w/selcal ck. had problems reading sigs on 13329 kHz. (RB)

13450: Thumping pulse sig here at 0415. Sig had wide bandwidth from 13420-13480 kHz. Sig also found on 11810-11880 and 11950-12000 kHz. (TS)

Abbreviations Used For Intercepts

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

14384.5: CIW803, Canadian CFARS opr, Gander, NF, Canada at 1748 in USB clg CIW809 on "Bravo" re having another stn QSY to "Juliette" (14452.5 kHz). This is Canadian Forces Affiliated Radio System. (RB)

14383.5: NNNOCZO, Navy MARS stn on board USS Stephen W. Groves (FFG-29) in USB at 0200 w/pp to NNNOEIZ. (TS)

14438.4: FJY2, Port au Francais, Kerguelen Island at 1032 in ARQ-E3 96/395 w/"FM DISAMS TO CALVA." CC RFGW, w/OZONE report. (RH)

14470: NNNOCHS, Navy shipboard MARS stn in USB at 0147 w/pp. (TS)

14487: AAH, Army MARS, Ft. Lewis, WA at 1805 in USB w/kg K9EUI (?) for QSO on Armed Forces Day 1996. (RB)

14699.2: YIX70, INA Baghdad, Iraq at 1610 in RTTY 50/406. Haven't hrd this one for long time. (RH)

15682: Lincolnshire Poacher nbr stn in AM at 1600. Msg ID 04899, 5F grps in EE. (AB)

15862.1: SAM, MFA Stockholm, Sweden at 1055 in SWED ARQ 100/390 w/tfc in Swedish for Tehran Emb. (RH)

15961.7: RFLI, French Forces, Fort de France at 1904 in ARQ-E3 192/425 idling. (RB)

16096: U/i at 2101 in RTTY 75/1300. This stn 4 a weaker one sending 5-8 sec. bursts of encrypted t/c. (PS)

16135: KUM70, Honolulu, HI Meteo stn at 0320 in FAX 120/576 w/meteo chart. (WL)

16226.3: Russian MFA bcst to YBU, loc unknown. Hrd at 1401 in RTTY 75/850 w/R Y's, no msg. (TS)

16262.2: RFTJD, Libreville, Gabon in ARQ-E3 192/390. FM GROUPTAM LIBREVILLE TO RFFAB/GUERRECENTOPS PARIS. 5L grps. (RH)

16277: JWT, Norwegian Navy Stavanger at 1357 in SITOR-A 100bd w/news. (AB)

16308.2: OLZ87, u/i Czech stn at 1140 in RTTY 100/390 w/tfc in Czech FM PRAGUE TO TUNIS. 1st time hrd. (RH)

16683.5: SYOV, M/V Oinoussian Strength at 1628 at 1628 in CW clg/wkg SYHP, M/V Oinoussian Sky. (RB)

16748.1: UTSW, Sovship RTMKS Dapitan Orlikova at 0845 in RTTY 50/170 w/fleet reports to K'grad. (RB)

16797: UFXI, TR Novorossiyskiy Rabochin at 1954 in 50/170 RTTY admin TG's from Master KM Aliev. (RB)

16802.5: YLGD, TR Ronyu Sala at 1845 in RTTY 50/170 w/R Y's to UIW, and w/admin msgs to Riga RTF (REFTRANDFLOT, Refrigerated Transport Fleet, Klaipeda) from Master Master KM Makov. (RB)

16929.8: 9MR, Malay Nav Rdo Johore Bahru w/5L grps in RTTY 50/853 at 1234. (RH)

17074: LGX, Rogaland, Norway at 1400 in CW w/tfc list. (AB3)

17442: 5YE, Nairobi, Kenya in RTTY 100/850 w/coded wx at 1950. After wx, went into RY test tape. (TS)

18966.7: RFHJ, French Naval Papeete at 0250 in ARQ-E3, idles for hours. (WL)

20450.3: CLP1, MFA, Havana, Cuba heard at 1538 in RTTY 50/225 w/MinRex traffic to

Radio Station VNG LLandilo, NSW

Name: Hiroshi Saito

Your VNG reception report

dated 30/8/94 at 2000 - 2030 UTC

on 8.638 MHz

is confirmed with thanks.



for National Standards Commission

Hiroshi Saito, Japan received this QSL from the Australian standard frequency and time signal service station.

Nigeria. At 1548 with EmbaCuba Nigeria economics nx. (RB)

Contributors for this month were:
AB—Ary Boender, Netherlands; RB—Rick Baker, Ohio; AH—Al Hemmalin,

Rhode Island; RH—Robert Hall, Republic of South Africa; WL—Wes Linscott, Maine; BP—Bill Perrelli, Connecticut; WP—Walt Petersen, Florida; PS—Paul Scalzo, Quebec, Canada; TS—Tom Severt, Kansas.



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CIRCLE 94 ON READER SERVICE CARD

The Ham Column

BY KIRK KLEINSCHMIDT, NTØZ

GETTING STARTED AS A RADIO AMATEUR

Will Somebody Please Talk to Me?

Pins and needles? Fluttery stomach? That tic in your left eyelid bothering you? Palms sweaty? You must be about to make your first repeater contact! Relax, it's easy.

You've probably just unpacked a shiny new 2-meter FM rig and you're *dying* to use it. First things first. You punch up the local repeater frequency and listen.

Nothing. No QSOs in progress, no weather reports, no machine-spoken IDs are heard. This is the moment you've been waiting for. You key the mic and, in a confident voice, announce, "This is NTØZ listening!"

The repeater works its magic. Somebody has to be reaching for their microphone, right? They'll respond any second now, won't they? The seconds stretch on. You repeat your call, perhaps sounding a bit less confident. Still nothing.

Just when you're about to give up and hit the big switch, the repeater comes to life! "WQØXYZ this is WVØABC. You around, Bill?"

Anger flares and pushes aside your former feelings of isolation. You realize that at least one of those guys was probably on frequency and listening when you made your calls. Why didn't they answer you? Is it because you're a newbie? Do they hate you already? They don't even know you! As you'll discover, therein lies the problem . . .

The Paradox: Most Hams are Shy!

Ham radio is all about communicating—with one great contradiction: Most hams are painfully shy! Want proof? Go to any hamfest and watch how clusters of ham buddies talk up a storm *with other hams they know*. Otherwise, most hams walk around in relative silence. Some are even difficult to engage in conversation!

A friend of mine thinks it has to do with the nature of amateur radio itself. I tend to agree. You see, when you're on the air talking up a storm to some other ham in Oregon, you're "invisible" (SSTV and ATV modes excepted). You don't have eye contact. You could be reclining in

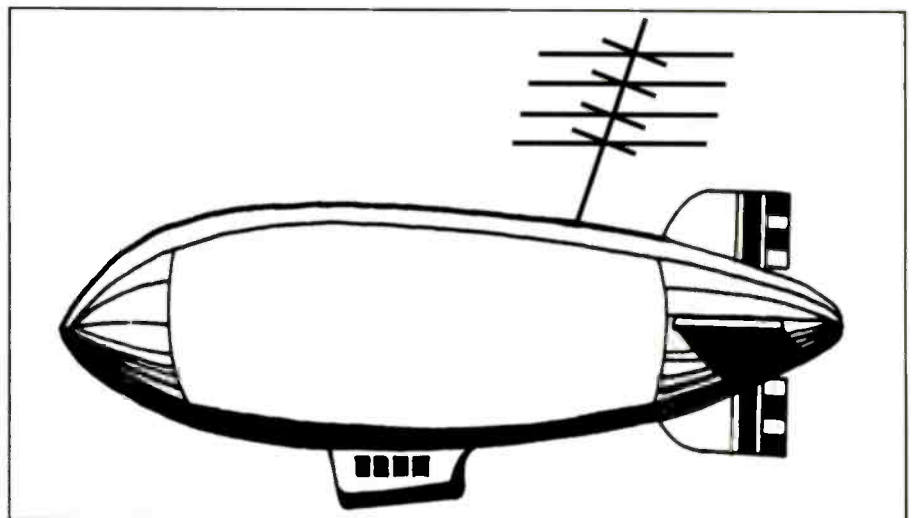
your boxer shorts or standing on your head. The world is at arm's length.

Through ham radio, people who might be fearful of close, personal communications still get to communicate. Breaking the shyness barrier is what's necessary to make those first repeater contacts. When you announced that you were listening, more than a dozen other ops probably heard you. They *heard* you, but they probably didn't *know* you. They were all waiting for someone else—and they knew there *were* others listening on frequency—to be the first person to break the ice. If everyone waits, unfortunately nobody responds!

This scenario is repeated (pun intended) on machines across the country many times a day. The problem isn't you, or that you're a new ham. It's that you're a stranger. An unknown quantity. Making the transition from stranger to friend will ensure many repeater QSOs.

Clearing the First Hurdle

If you keep announcing that "you're listening," someone will eventually reply, but it might take a while. An easier approach is to become part of an *existing* repeater conversation. Monitor the re-



If you say, "This is NTØZ, overhead in the Goodyear blimp, listening," you're bound to get a reply.

peater and listen for opportunities to join in, even if you're just asking a question.

"KXØABC from WVØXYZ. I'm definitely gonna order that Weber Street-Lethal carburetor for my Toyota. I think it's the best way to get the extra horsepower for pulling my camper." "I don't know, Hector, I think you should start with an exhaust header and a set of cams tweaked for towing power." Here's your golden opportunity to jump in a make friends. If you don't know anything about souping up 4 x 4s, just ask a question! If you do, pop in and contribute your two cents worth. In a pause between transmissions, announce your callsign.

"NTØZ" "Whoa, there's a new voice! Ah, NTØZ . . . this is KXØABC. How can I help you?" "Hi, my name is Kirk and I live in Little Falls. I couldn't help overhearing your discussion and I wanted to suggest the Mikuni carb over the Weber. It's not as easy to install, but it provides more horsepower for towing. And if you change the cams, you'll wind up replacing the rockers and the valve springs. It's a lot of extra work."

At this point, you're no longer a stranger, at least to these guys and those who are lurking on frequency. Make enough conversations of this type and you'll gradually wear down the opposition. In time, your call sign will be familiar to everyone who regularly uses the machine, and when you say, "NTØZ listening," you'll get replies. After all, these people now know you!

A Few Repeater Tips

- Another way to get to know repeater-dwelling hams is to attend a few local ham club meetings. Make friends there and you've made a friends on the repeater! Through that local club, volunteer for various public service activities. Helping out at public service events is rewarding in ways beyond the accumulation of ham radio friends.
- Try asking for a signal report instead of just announcing to the world that you're listening. When there's a reason to reply, your chances improve.
- Do something or go somewhere unusual. If you say, "This is NTØZ, overhead in the Goodyear blimp, listening," you're bound to get a reply.

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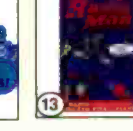


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The Loose Connection

BY BILL PRICE, N3AVY

RADIO COMMUNICATIONS HUMOR

Red Sky at Night

We were thirteen; fourteen, maybe. It doesn't matter. We spent that part of our lives walking the fence between kid and teenager. It was a relief when we leaned toward the kid side because we didn't have to act like James Dean just because someone was watching. In our teenage mode the understood rule was "BS and brag;" tread social water or drown.

Personal communication consisted of party-line telephones and counting the rings to see if you should answer the phone. Back then, 100mW walkie-talkies operated on channel 14, were made of metal, and a pair cost about three weeks pay running amusement park rides.

Our own "Freedom of Information Act" was passed when three of us got AM "wireless broadcasters" for those rare times when we were home. Even with our thousand-foot magnet-wire antennas, which encroached invisibly into many neighbor's yards, it took luck and careful tuning to keep us above the noise-floor.

We were too young to stay out all night, but we never got tired; we never wanted to quit clowning around. Our answer was backyard camping. We called it sleeping-out. It took only one night outdoors to appreciate the freedom to stay up all night by a campfire, suspending many of society's rules, and being just quiet enough that an occasional "Go to sleep, dammit" let the host-parents think they had us under control.

It quickly became our goal to sleep out every night, and to that end we researched every weather forecasting axiom and wives' tale and twisted them into mutations which would always play to our advantage. Red sky at night, sailors delight. Red sky at morning, pay it no warning. According to us, the only time rain was a threat was when it was actually falling, and even that could often be discounted due to some handy rule of thumb we'd distorted beyond recognition.

One evening we pooled every drop of our communication skills and played a

pre-recorded "clear weather" forecast over a wireless microphone to a skeptical father's radio. At the time of our "broadcast," which I remember to be a Thursday evening, it was threatening to rain and the sky had gone dark. Our recording featured a morning drive-time D.J. giving the *Wednesday* morning forecast as, "... sunny and mild all day, highs in the low eighties and cool, clear sleeping weather tonight ..." then admonishing his listeners that if they haven't already left for work, they'd better get going or they'd be late. The old man stared at us but never said a word.

The giggling didn't help at all. He let us move our sleeping bags into the basement, and about midnight, when the rain was over, we quietly moved outside and built a fire with some nice dry "scrap" lumber from the basement. We often went for days without seeing our own parents, and timing was critical as we each called home for clearance to sleep out again the next night or two. We assured our parents that we were welcome in the host's yard, and no—we hadn't taken a bath, but we were swimming just this afternoon. Yes—we brushed our teeth, and were fine—eating well—yes—plenty of vegetables. We learned to break camp efficiently, stuffing everything we owned into our sleeping bags and lashing them to our bikes. Our migration was planned so that we actually slept at our own home about every third night.

I later learned that our parents called each other most every evening; they were sure that we were up to something, and they were, by God, going to find out what it was. What it "was," was being on our own; no parents. Staying up all night; talking dirty. Eating junk food long before it had a name: smoking cigarettes and staging bean-suppers that far surpassed the campfire scene in *Blazing Saddles*.

Even with all the clowning we could detect the stealthiest parent 50 yards away. The father hadn't been invented who could even get out of his own door

unnoticed, let alone sneak up on us. We laughed a lot the night we got a bottle of homemade wine, and three of us could get falling-down-giggling drunk on a quart of beer because we didn't know it was supposed to take more. The worst secret we had to keep was when the bear came into our campsite and ate everything except us. After we all agreed that none of us had been scared, the story was about to make us local heroes. We had to squash it though, when we realized that it would have meant the end of our summer-long camping; because mothers just don't understand about bears being very picky eaters.

One night we hung three twenty-year-old Navy hammocks between two tall pines after being admonished that they'd rip right out from under us if they had pinholes in them. We checked. They were fine. The lowest was some 10 feet off the ground. We'd sleep better up there, honest. We'll be fine. It's not too high. Stop worrying, mom.

We had to squirm like snakes to get into our sleeping bags, and I'm sure I wasn't the only one who thought they were just a little too high. We had wiggled in to try the hammocks early in the evening when the top one ripped, dumping its screaming contents onto me. My hammock ripped without hesitation and dropped us flailing onto the last of our threesome, whose bed was no stronger. We must have looked like enormous caterpillars as we fell, still in our sleeping bags. There were no injuries except that we were winded, and that was just from laughing so hard. We slept on the ground that night, as we always did.

There were no bugs then; no discomfort. No cold, no rain, no hot, no damp. The ground was always smooth under our sleeping bags and the smoke from the campfire never blew in our faces. We always woke up well rested, ready to continue the fun as if we'd merely blinked.

I hope my old age is kind to the cells that store these memories. ■

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Advertisers Index

A.M.C. Sales, Inc.....	27
AOR, LTD.....	Cov II
Ace Communications.....	Cov III
Advanced Specialties, Inc.....	65
Alpha Delta Communications, Inc.....	13
Antenna Supermarket.....	49
Antique Radio Classified.....	71
Atlantic Ham Radio.....	75
C. Crane Company.....	71
CRB Research.....	24,54
CQ Merchandise.....	75
CQ Videos.....	10
Cellular Security Group.....	9
Communications Electronics, Inc.....	23
Computer Aided Technologies.....	42,43
Davis Instruments.....	27
Delta Research.....	54
Drake, R.L. Company.....	11
Durham Radio Sales & Service, Inc.....	71
EDCO.....	7,46,47
Electronic Equipment Bank.....	1,77
Firestik Antenna Company.....	73
GENIE Radio & Elec. RoundTable.....	73
Gilfer Shortwave.....	63
Intensitronics Corp.....	59
Japan Radio Co., Ltd.....	21
Jo Gunn Enterprises.....	51
K & L Technology.....	71
Lentini Communications, Inc.....	61
MACO Mfg. Div./Majestic Comm.....	17
MFJ Enterprises, Inc.....	39
Metrosoft Corporation.....	48
MetroWest.....	73
Microcraft Corporation.....	22
MoTron Electronics.....	35
Mouser Electronics.....	53
Optoelectronics, Inc.....	5,80,Cov IV
PerCon Corporation.....	67
Phillips-Tech Electronics.....	73
Quement Communications.....	18
R.C. Distributing.....	18,24
REACT International, Inc.....	63
RadioShack.....	33
Sangean America, Inc.....	19
Scanner Master.....	48
Scrambling News.....	22
Sherwood Engineering, Inc.....	10
shoc.....	37
Signal Engineering, Inc.....	14
Software Systems Consulting.....	53
TAH Enterprises.....	24
Tucker Electronics.....	29
Universal Radio, Inc.....	3
Viking International.....	18
Visual Communications, Inc.....	17
Wilson Antenna, Inc.....	31
Wireless Marketing Corp.....	57
Xandi Electronics, Inc.....	22
Yaesu U.S.A.....	15

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Tuning In

(from page 4)

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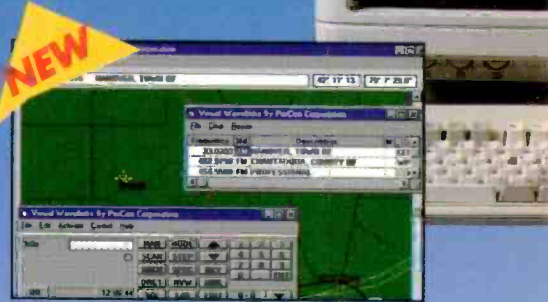
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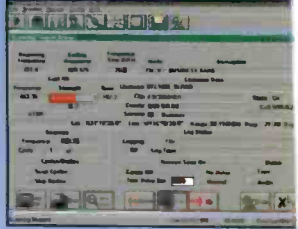


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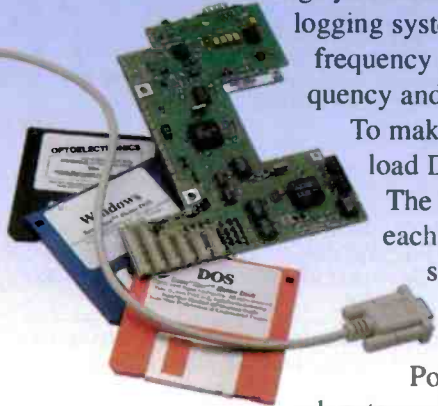
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