

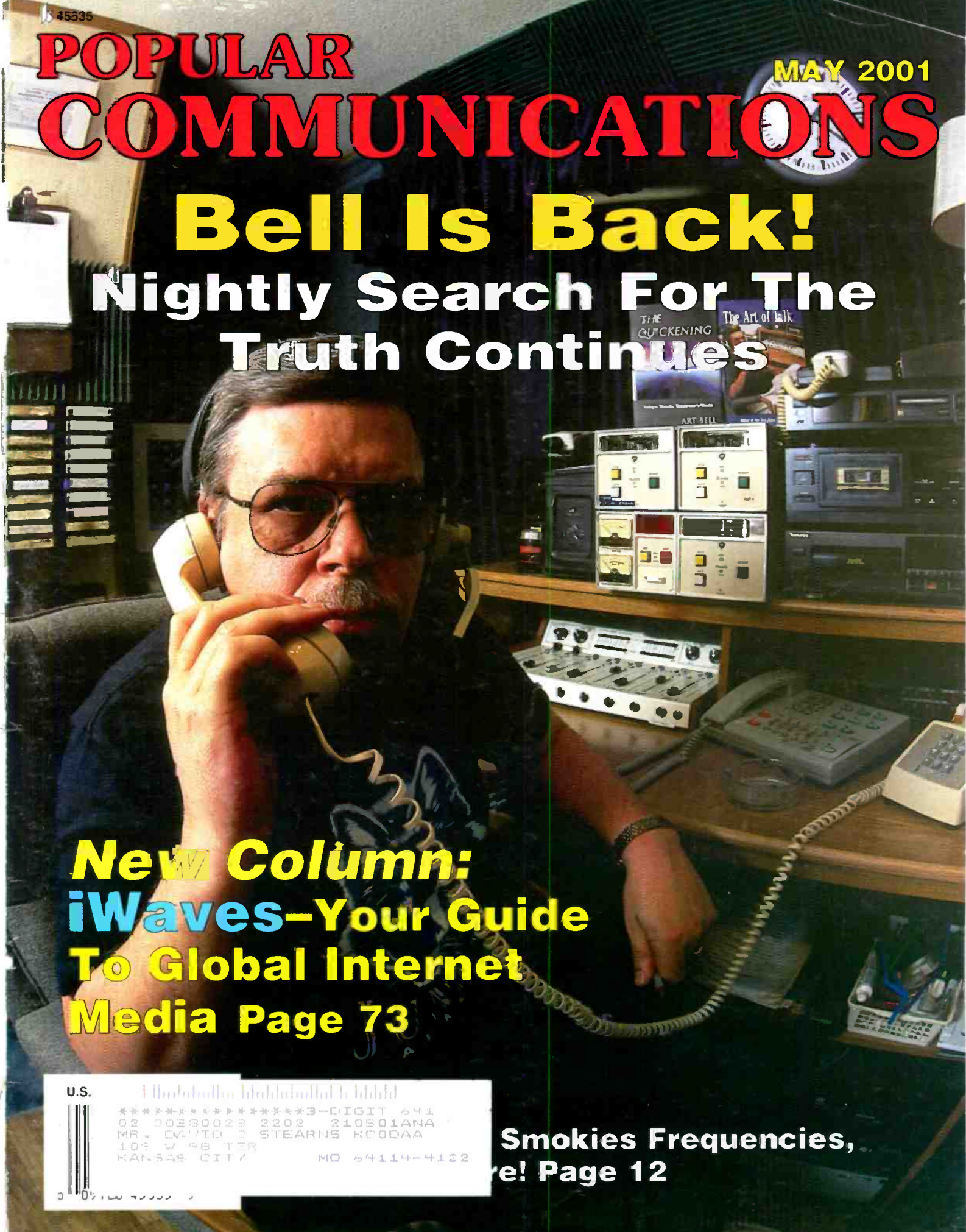
45335

# POPULAR COMMUNICATIONS

MAY 2001

## Bell Is Back!

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**New Column:**  
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**To Global Internet**  
**Media Page 73**

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**Smokies Frequencies,**  
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\*Specifications subject to change without notice. Some accessories and/or options may be standard in certain areas. Frequency coverage may differ in some countries. Check with your local Yaesu Dealer for specific details.  
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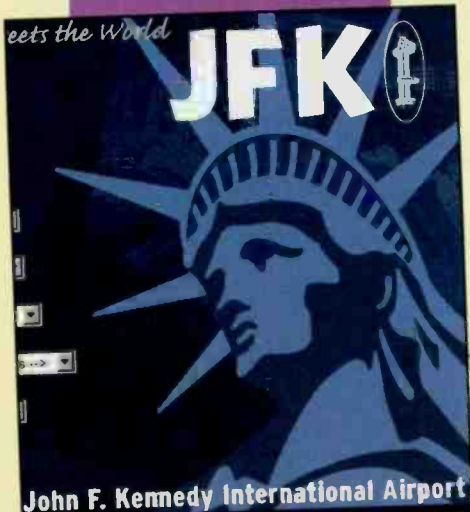
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# TUNING IN

An Editorial

## Two New Columns: *iWaves* And *Space Monitor*

**W**hatever you think about the Internet, fact is, it's here to stay. Forget that it's almost addictive to many folks and a downright necessity in corporate America; it's also a "radio" entertainment and information bonanza. We've decided, after several late-night meetings and all too many pizzas, that the time has come to embrace not just the Internet, but the streaming media — Internet radio, if you will — available to anyone with a computer, 24-hours-a-day, 365 days a year.

---

**"Fact is, as our *"iWaves"* columnist Eric Force reports, 350,000 hours of new audio/visual content is placed on the Web every week!"**

---

I'm sure there are those die-hard folks who scoff at such a "radical" idea, but they're probably also the same people beating the ham CW testing drum to death. Please, even the drum is begging for relief! So here we are in the official new Millennium with more audio and video from every corner of the world than Billy Tauzin and Ed Markey have common sense. Fact is, as our "iWaves" columnist Eric Force reports, 350,000 hours of new audio/visual content is placed on the Web every week! And, the best news is, Eric will be showing us step-by-step how to get set up to hear the action on the Web, and every month he'll highlight the best of the best, from entertainment and music to sports and political commentary; you'll read about the wealth of outstanding media resources in the new "iWaves" column that begins this month on page 73. And remember, if you've got ideas for the column, or media sites you think deserve mention in *PopComm*, please contact Eric directly either by writing to him here at *PopComm* HQ, 25 Newbridge Road, Hicksville, NY 11801 or via E-mail at [eric@dobe.com](mailto:eric@dobe.com). Above all, know that

---

***"Space-related communications promises to become even more attractive to radio enthusiasts in the near future as we venture further out into the cosmos."***

---

this is your magazine; your ideas, comments, and suggestions are heard!

### Space Monitor — We're Listening To YOU

Keith Stein's name is synonymous with satellite and space-related monitoring, so it was an easy decision when we talked about bringing you this new column. Keith gets right down to business this month on page 16 with tons of frequencies and tips on what you need to get started monitoring this fascinating realm. He can also be reached by mail at our HQ address or by E-mail at [kstein@erols.com](mailto:kstein@erols.com). Space-related communications promises to become even more attractive to radio enthusiasts in the near future as we venture further out into the cosmos. Stay tuned! And please welcome Keith to the *PopComm* family with your letters and E-mails.

### SOS

That's what my family was getting ready to send by whatever means they could during the past month as I finally took, and passed the 5 wpm CW test: add that to the General written exam taken all of 360-some days ago and I finally attained the right to work skip on HF. What a ride! Eat breakfast, study the code, go to work. Quick lunch, learn more code. Then, at the end of the evening, right after eating dinner, another hour or so of practice and listening to Gordon West's tapes. It took me nearly

*(Continued on page 74)*

## POPULAR COMMUNICATIONS

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- Passport to World Band Radio, 1998

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# QSLs From Attic To Archive

## How Your QSLs Can Be Preserved Forever

By Jerry Berg

All listeners know about QSLs, the cards and letters that verify a listener's reception of a station. They are nice reminders of our listening experiences, and always a point of interest at DX gatherings. As personal mementos, QSLs are usually highly prized by their owners.

In 1986, a group of DXers organized the **Committee to Preserve Radio Verifications (CPRV)**. The purpose of the committee is to archive QSLs from listeners who are no longer active in the hobby or who have passed away. The project organizers were uncertain whether former hobbyists would donate their QSLs, or whether collections held by their families could even be located. Fortunately, the answer was "yes" on both counts.

The CPRV is a committee of the Association of North American Radio Clubs (ANARC), an umbrella organization of listener clubs representing thousands of hobbyists. The Committee does its work by seeking out inactive hobbyists and the families of deceased hobbyists and telling them of the Committee's

work, and also by urging active hobbyists to place special CPRV-supplied stickers on their QSL albums stating the wish that the QSLs be donated to the Committee when the time comes. Both techniques have proven effective. In the years since its inception, the CPRV has collected well over 30,000 QSLs (including duplicates), and become a valuable repository of hobby history.

During most of its life, the CPRV collection was housed at Christian Science headquarters in Boston. The Christian Science organization has long been a leading news voice and international broadcaster. In 1999, as a result of the collection's growth and the need for an archival environment, the collection moved to a new home, the Broadcast Pioneers Library of American Broadcasting. Located in the Hornbake Library building on the campus of the University of Maryland just outside Washington, D.C., the "lab" is one of the foremost resources of media history in the country. It's a wide-ranging collection of audio/visual recordings, books, pamphlets, periodicals, personal collections,

At 10:30 P.M. NAA time Oct 2 1921  
 I heard your station CALLING  C f.  
 Your signals were QSA  QRK  QZ   
 QSS Bad  Mod.  None   
 QRM "  "  "   
 QRN "  "  "   
 QSB r.c.w.  Bad  Good  Perf.   
 My Transmitter on 190 Metres  
 consists of 4 tubes under construction pls do not know what is missing that C. W. set  
 I am using a GREBE CR-4 Receiver and TYPE RO RG. Detector Amplifier.  
 Usual hours of operation 7 to 12 P.M. send us sig on the BELL wiring in my house using this for an antenna (3. om) Oscar Johnson 29 new jersey ave. Albany N.Y.  
 Radio Call 2 KU

2KU is the Committee's oldest QSL, a ham card dating from 1921.

RADIO STATION 1-B.K.A.  
 BOX 107. GLENBROOK, CONN. 11-13 1922  
 NEW DESIGN 100 WATT TRANSMITTER  
 We will test this transmitter on voice, Sat. Nov. 18 1922  
 10:30 PM, to Sunday at 4 AM P.M. 1922, Eastern Standard  
 Time, on about 185 meters. Please listen in and send  
 report in detail as early as possible. Thank you for  
 your co-operation. Photo of the set will be mailed you  
 on request. CUL 73 J. EDWARD BROWN  
 psc Q.S.L.

Here is a 1922 reminder to listeners to "listen in" and send a reception report.



The drawing of the boy on the record is a classic design from this Ivory Coast station.



Columbia University  
in the City of New York  
DEPARTMENT OF ELECTRICAL ENGINEERING

June 6, 1941.

Mr. Peter A. Clarius,  
11 Marianne Street,  
Port Richmond, Staten Island,  
New York.

Dear Mr. Clarius:

I am glad to confirm your  
reception of W2XAN.

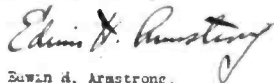
At the present time the  
station has no news period or commentators,  
but will shortly. The schedule is:

Mondays thru Fridays- 11 am to 2 pm;  
4 pm to 11 pm.

Saturdays and Sundays- 11 am to 11 pm.

Trusting this will answer your  
question,

Very sincerely yours,



Edwin H. Armstrong.

eha:s

P.S.- I think I can assure you that if you use  
the proper kind of FM receiver you will have no  
interference of any kind whatsoever.

*This valuable letter verifying a listener's FM reception is signed by  
the station's owner (and FM inventor) Edwin H. Armstrong.*

photographs, scripts, and now QSLs, devoted exclusively to the history of broadcasting. It is co-located with its sister collection, the National Public Broadcasting Archives. As lab Curator Charles Howell has said, "The Committee for the Preservation of Radio Verifications QSL collection is an outstanding example of the impact that dedicated individuals can have in preserving the radio heritage of our nation and indeed the world." The CPRV collection is a living collection in that additions are continually being made to it.

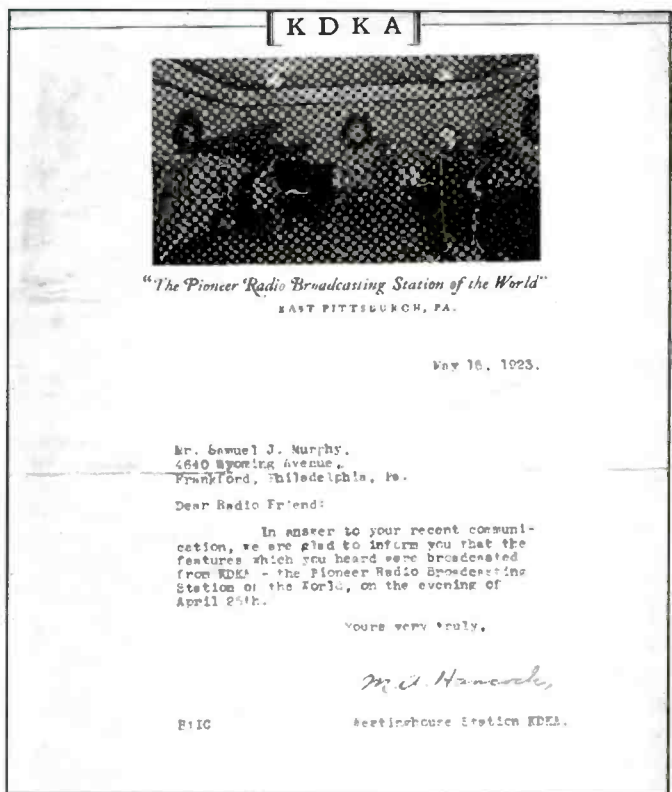
## Focus On SW

The Committee is interested in QSLs of all kinds. However, its focus is on shortwave broadcast stations, and domestic and foreign mediumwave stations. Mediumwave stations comprise approximately 60% of the CPRV collection. Of that number, 80% are domestics and the rest foreign. Shortwave broadcast QSLs make up about 25% of the Committee's holdings, and the remaining 15% are amateur radio, utility, FM and TV QSLs. At present the collection includes the QSLs of over 150 persons. It has great historical significance, with approximately 40% of the collection dating from before 1949.

DXers with material in the CPRV collection constitute a who's who of great names in DXing, including shortwavers like August Balbi, Anson Boice, Grady Ferguson, Art Hankins, Al Niblack, Paul Karagianis, Ray La Rocque, Frank Peters and Don Johnson, and mediumwave DXers such as Gene Allen, Frank de Macedo, Bob Gorsuch, Roy Millar, Russ Mappin, Tom Farmerie, Dick Daneker, Bob Knox, Bill Prater, Tom McCormack, Warren Routzahn, Norm Maguire, John Tweedie,



*Radio Belgisch Kongo broadcast from what was then Leopoldville in  
the Belgian Congo (now Zaire).*



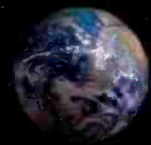
*Here is a letter written just three years after historic station KDKA  
came on the air.*

and Carroll Weyrich. Among the recent additions to the CPRV collection are the QSL collections of the late Len Kruse, Hank Holbrook, Bill Sparks, and John Tuchscherer.

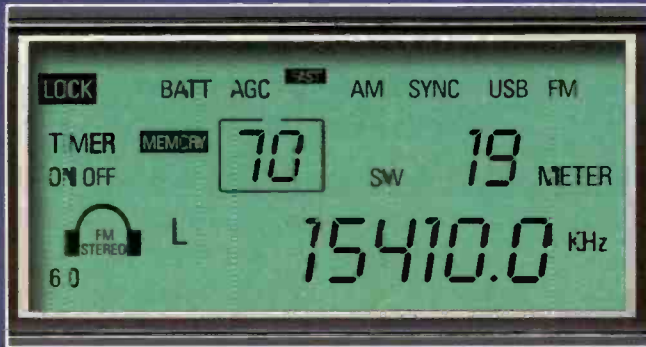
## A Look Inside

When a new collection is received, each QSL is examined, and new QSLs and significant duplicates are entered into the CPRV computerized database. The database can be sorted in various ways, including by station, which permits all the entries for a given station to be viewed at the same time. Likewise,

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# The



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• For Fixed-step  
Tuning: Big, respon-  
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buttons.

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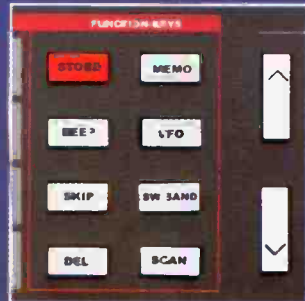
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Call Sign: "7. L. O."

NAIROBI, KENYA COLONY.

Our Ref. CAB/576.

Your Ref. —

50th June, 1956.

R.E. Kravutsk, Esq.,  
2nd Battalion Headquarters,  
11th Field Artillery,  
Sakofield Barracks,  
Honolulu,  
Hawaii.

Dear Sir,

In reply to your letter, we have pleasure in confirming your reception of our short-wave broadcast transmission. The details which you give agree entirely with our records.

Our transmission times, expressed in G.M.T., are as follows:—

Monday	1045-1115	1330-1430	1630-1930
Tuesday	1045-1115	1330-1430	1630-1930
Wednesday	1045-1115	1330-1430	1630-1930
Thursday	1045-1115	1330-1430	1630-1930
Friday	1045-1115	1330-1430	1630-1930
Saturday	—	—	1800-2000
Sunday	—	—	1600-1900

We trust you will continue to derive entertainment from our programmes.

Yours faithfully,

*Label*  
for Manager.

Known long ago as VQ7LO, here is a letter verifying a Hawaiian listener's 1936 reception of Kenya.

## YV2RC - 5800 KC.


**WELCOME**  
to the ranks of our listeners.

Your reception report dated  
*November 11 1935*  
is correct.

YV2RC relays YVIRC's programs, and has been reported from every country in the world.

Best wishes from Caracas, the city of perpetual spring.

*[Signature]*  
DIRECTOR



Many attractive QSLs were issued by South American stations. This is one from Venezuela.

because QSLs are physically filed by country (and state), all of a station's QSLs can be easily located, often presenting a "QSL history" of a station over a period of time; sometimes many years.

The Committee has many QSLs that it views with special pride. One is the 1941 QSL signed by FM inventor Edwin H. Armstrong, QSLing reception of his FM station W2XMN for a listener in New York. Also in the Committee's holdings are several QSLs from the late Dave Thomas' historic "pirate" station WUMS which was active in the 1940s. Perhaps the most attractive QSL of all time is the 10 x 14-inch multi-colored diploma QSL issued by Argentina's Radio Excelsior when it conducted

long distance mediumwave tests for the U.S. Department of Commerce in 1936. There are many other candidates, however, including the attractive certificate QSLs from the early Costa Rican shortwave broadcaster TI4NRH; the QSLs printed on copper sheets which were issued by various Montana stations in the mid-1940s; QSLs from broadcasters in Japan and China in the 1930s and 1940s; colorful confirmations from Latin American stations of years ago; and verifications from long forgotten U.S. shortwave stations of the 1920s and 1930s.

Although early QSLs are of similar appearance to their modern counterparts, in general early stations went to greater lengths to produce attractive QSLs. After all, those were the days when long distance reception was as much a novelty to the station as to the listener, and thus a significant event. There were few other means to tell who was listening. In addition, from a communications standpoint the world was much smaller, and receipt of a letter from a distant listener was worthy of commemoration. For the DXer, QSLs — especially on the broadcast band — were sometimes necessary to prove reception in DX contests.

Die Deutsche Reichspost

dankt Ihnen für die Beobachtung ihres Kurzwellensenders

# Zeeseen

und bestätigt die Richtigkeit ihres Empfangsberichtes vom 19.8.35 über

**DJR DJQ DZE DZC DEB DJADJN**

15340 kHz, 5280 kHz, 12120 kHz, 10290 kHz, 10040 kHz, 9580 kHz, 9540 kHz

Reichspostzentralamt, Berlin-Tempelhof

Vertretung  
*[Signature]*

Known by the name of the town where it was located, the wartime "Kurzwellensenders" broadcast the Nazi overseas service from Zeeseen.

The Committee's broadcast band collection extends from radio's very early days to the present, and chronicles the QSLing practices of many thousands of individual stations. Among these are QSLs from 1923 from KDKA, Zenith station WJAZ and Cuban broadcaster PWX, as well as countless other American and Canadian broadcasters, famous and obscure, which were active over the years. Many EKKO stamps are found among the early domestic broadcast band QSLs as well.

Due to the huge number of ham radio QSLs, the Committee accepts amateur radio QSLs only if they are very old or especially distinctive. The oldest item in the Committee's collection is a card sent by amateur operator 2KU in Brooklyn, New York, to a ham in Utica, New York, reporting his signal as having been heard on October 2, 1921. "Rcvd ur sigs on the Bell wiring in my home using this for an antenna," he wrote.

## How To Get In Contact

QSLs are principally for their owner's enjoyment, and the Committee recommends that hobbyists keep their QSLs unless they no longer want or need them. For active hobbyists who want to provide for the future of their QSLs, the

Committee operates the Registered Collections Program. The hobbyist submits a registration form to the Committee, which in turn provides special stickers to affix to QSL albums, shoe boxes, or wherever one's veries are stored. The stickers contain a message expressing the wish that the QSLs be donated to the committee when the time comes. A copy of the registration form is also placed among the listener's personal papers. CPRV member John C. Herkimer operates the Registered Collections Program.

On the personal side, the Committee provides a way of memorializing for the future activities of individual DXers, past and present. However, it also makes a significant contribution to the history of radio by amalgamating many individual QSLs into a permanent, organized historical resource.

On the issue of storing QSLs, the Committee recommends that hobbyists avoid the ribbed, "magnetic" pages sometimes found in picture albums. The grip of these pages tends to increase over time, and before long it may be impossible to remove QSLs, especially letters, without causing damage. The best way to preserve QSLs is in albums with plastic covered pages, affixing the QSL with old-fashioned paper mounting corners. It is also important to keep QSLs in a dry location. Dampness is paper's worst enemy.

The Committee would welcome inquiries from *PopComm* readers who are interested in preserving their collections. It is also interested in the whereabouts of old timers who may wish to know about the Committee's work and how to donate their QSLs. The Committee expends much time learning the status and whereabouts of DXers of yesteryear, and welcomes information about "where they are now."

The members of the CPRV are Jerry Berg, Chairman, Gerry L. Dexter, Tom Gavaras, Dan Henderson and John C. Herkimer. You can contact CPRV chair Jerry Berg at 38 Eastern, Lexington, MA 02421, or via E-mail at [jbberg@ontheshortwaves.com](mailto:jbberg@ontheshortwaves.com). You can also visit the Committee's Website at [www.ontheshortwaves.com](http://www.ontheshortwaves.com) and the Website of the Library of American Broadcasting at [www.lib.umd.edu/UMCP/LAB/](http://www.lib.umd.edu/UMCP/LAB/) Please contact the Committee before sending QSLs. ■

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WEDNESDAY	6:12 TO 11:00
THURSDAY	6:12 TO 11:00
FRIDAY	6:16 TO 11:00
SATURDAY	8:09 TO 11:00

**SCHEDULE**

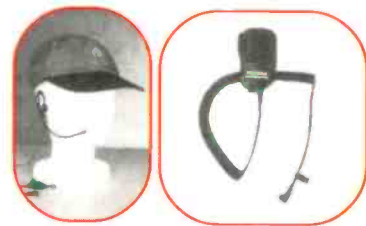
Monday, 11:28 AM, An (11:28 AM)  
Sun 6:30 to 8:15 P.M.  
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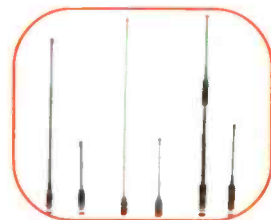
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# Scanning The Great Smokies

## Radio Paradise Down South

By Rick Garrett, N9GSU

**T**he Great Smoky Mountains National Park, on the border of Tennessee and North Carolina, is America's most visited national park. In 1999 more than nine million people visited this varied and beautiful park. From the fertile valley of Cade's Cove, to the 6500-plus foot elevation of Clingman's Dome, it's a paradise for hikers, canoe, kayak, and innertube enthusiasts, backpackers, picnickers, wildlife watchers, students of mountain culture and, for some of us, it's a true Shangri La of radio activity.

I made my first trip to the Smokies in 1978 with my wife's family. Since that time we've visited on a yearly basis, often several times a year. It's a diverse area of the country, from the wilderness of the national park, to the craft shops and quaint restaurants of Gatlinburg, to the go-cart tracks and amusement parks of Pigeon Forge, to the Native American emphasis of Cherokee, to the sleepy little town of Townsend.

Somewhere along our married life, the radio bug bit me hard! Starting out first as a scannist, then a SWL, and finally attaining my amateur license while still maintaining my interest in the other areas, our vacations now are combination family vacation/radio monitoring trips. I'm blessed to have such an understanding family! Along with luggage, I now take a briefcase filled with a wide assortment of scanning and ham radio equipment.

Just as varied as the culture of the area are the communications. On any given trip, I've heard rescue operations in the National Park, searches for lost hikers, aerial tours, amusement park ops, police/fire/EMS comms, families communicating with FRS, attempts to locate troublesome bears and spent time maintaining numerous ham contacts. There is no end to the communications one will hear in the Smokies!

For the purpose of this article, we'll break up the frequencies and tips into three main areas: National Park scanning; police/fire/EMS scanning; and business/miscellaneous scanning. All the frequencies listed were active as of late 1999.

### National Park Scanning

With the Great Smokies being the most visited national park in the USA, there are an incredible number of communications to choose from. In years past, the Smokies was primarily a spring, summer, and fall resort; however, with the increasing popularity of downhill and cross country skiing, as well as the increased availability of snow-making equipment, the Smokies now stay busy all year long.

Park rangers face a variety of situations during the workday. Firearms are prohibited anywhere in the park and pets are pro-



hibited on all trails (yes, even leashed pets), and it seems that many of the calls heard are rangers responding to one of these two situations. The Great Smokies is truly a wilderness area, and lost hikers, or folks separated from their parties, are also a common occurrence. Often rangers will be out on the trail looking for lost people. Usually, these searches are quickly and happily solved. However, occasionally, there will be the full-blown search with hundreds of volunteers. Fortunately, most people are found, safe and healthy.

The Great Smoky Mountains is host to a wide variety of wildlife, inclusive of black bears, whitetail deers, wild boars, river otters, rattlesnakes, hawks, and eagles. The list is almost endless. Encounters with wildlife can be exhilarating, serving as wonderful photo opportunities. However, one might hear park rangers and personnel responding to calls regarding a bear

**Table 1: Local Public Safety Frequencies**

<i>Service</i>	<i>Frequency</i>
Gatlinburg PD	460.250
Sevier County Sheriff	460.025
Pigeon Forge Police	460.050
Gatlinburg Fire Department	460.575
Sevier Cnty. Fire Department	460.625
Sevier Rescue/Ambulance	453.850
Pigeon Forge Fire Dept.	155.745

**Table 2: Dollywood Frequencies**

<i>Service</i>	<i>Frequency</i>
Security	468.925
Park Mngmt./Operations	468.800
Maintenance	464.725
Parking Ops and Trams	464.100
Food Services	463.525



*Rick Garrett, N9GSU and Paul Folmsbee, KSPF at the state line.*

wandering where he shouldn't, a snake bite victim, or other unfortunate events concerning wildlife. When you visit the Smokies, remember that the animals are wild and should be treated as such. Take your pictures from a safe distance, enjoy them, but never attempt to approach or pet a wild animal.

Also, there's always the mundane communications such as snow removal, campground reservations, etc. For scanning national park rangers, 167.150 is by far the most used frequency for law enforcement and operations. There is also an UHF link on 415.125 and I have heard occasional traffic on 155.475. However, 167.150 remains the popular frequency.

### **Police, Fire, And EMS Scanning**

The main tourist towns bordering the Smokies are Gatlinburg and Pigeon Forge on the Tennessee side, and Cherokee on the North Carolina side. I've never stayed

on the North Carolina side of the mountains, so can't speak as to what frequencies are active there.

In Gatlinburg, during peak tourist season, the police, fire, and EMS departments are as busy as any big city. Traffic is unbelievable in this area, and many communications center around maintaining a smooth traffic flow and keeping property damage accidents to a minimum. In town, due to heavy traffic and strategically placed signal lights, people seldom are able to drive fast enough to cause serious injury. However, there is a lot of mountain driving in this area of Tennessee, which many of us flatlanders are not used to, especially when weather conditions are less than perfect. Serious accidents in the backcountry are fairly regular, almost always involving people driving much too fast for conditions.

You'll also hear local emergency service personnel helping the NPS police and rangers on search and rescue missions. **Table 1** lists "in use frequencies" for Gatlinburg, Pigeon Forge, Sevierville,

and Sevier County. As always, remember to use common sense when scanning. Never interfere with emergency services personnel. **Table 1** also gives a list of active public safety frequencies on the Tennessee side of the Smokies.

### **Miscellaneous Scanning**

The Smokies offer an almost unbelievably wide range of business, personal, and other types of scanning that doesn't quite fit anywhere else. The most explosive growth in the last year has been the popularity of FRS. If visiting the Gatlinburg area, you're sure to find activity on most, if not all, of the channels. The Smokies also offer the opportunity to do some mountaintop range testing. It's amazing what can be done with 500mw and the equivalent of a 6,000-foot high antenna!

There are numerous amusement parks in the area, the largest being Dollywood, owned by country music star Dolly Parton. Dollywood offers rides from mild to wild; shows from bluegrass to gospel to rock; and radio communications everywhere! **Table 2** lists some confirmed frequencies in use for Dollywood. And, in **Table 3**, are some frequencies that I used during my last trip.

While in the area, scan the various business bands. Day or night, there won't be a shortage of communications to listen to. Restaurants, go-cart tracks, mini-golf courses, tram and trolley rides, pizza delivery, chair lifts, and museums of all sorts use the radio to carry on the ever-growing day-to-day business. Twenty-four hours a day on weekends, and usually 18 hours per weekday, you won't be bored due to a lack of happenings to monitor in Gatlinburg!

### **Helpful Hints**

Having done mobile and portable scanning for over 20 years now, I can share a few hints picked up along the way. When handled in a comfortable, non-threaten-



Rick Garrett, N9GSU and Paul Folmsbee, K5PF, hamming it up in downtown Gatlinburg, Tennessee, on a hamming vacation.

**Table 3: Business and Other Area Frequencies**

Service	Frequency
Gatlinburg Aerial Tramway	157.620
Gatlinburg Ski Area (Ober Gatlinburg)	157.680
Gatlinburg Convention Ctr.	464.550
Gatlinburg Convention Ctr.	461.5125
Hillbilly Golf	154.625
Ripley's Believe it or Not	154.570
Ripley's Believe it or Not	154.600
Motion Master Theatre	151.625
Mountain Mall Ops/Security	451.600

ing manner, one does not have to be concerned with being questioned why radios are "hanging all over your body" by the law enforcement, business owners, or anyone feeling suspicion or fear. However, always be ready to welcome a fellow scanner

listener or ham operator that wants to share and compare experiences with you.

In this type of onsite, close-up scanning, there need not be concern with distance, but instead with receiving signals close around. I'll share a few suggestions that might help one be less obtrusive in scanning. First, if you choose to wear your scanner clipped to your belt, consider keeping it inside a jacket, sweatshirt, shirttail, or otherwise concealed. Remember that you might be well within your legal rights to scan, but raising questions is never a good idea. If you don't want to use the belt clip, fanny and/or belly packs that are so popular these days make a very convenient place to carry your scanner. You might have to lay it on it's side, so the antenna is horizontally polarized, but, remember, you're not looking for distance, so the signal you might lose from cross polarization is offset by the fact that you're doing "close-in" scanning.

In terms of antennas for very near field scanning, you can even remove the antenna and still get great results. This is particularly helpful in areas where multiple users are on the same frequency. And, there are a number of short rubber ducks on the market that will make your scanner less noticeable.

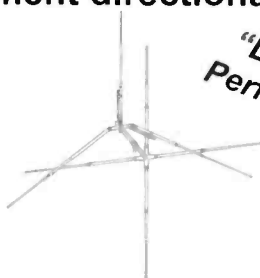
Walkman-type headsets are a must! In places like amusement parks or on busy streets the ambient noise level is often so high that a single earphone does not allow for easy listening to all the traffic. A Walkman allows you to hear everything. Because most people are used to the sight of the passerby with headsets for broadcast radio or tape listening, you will remain inconspicuous. Although you may be well within your legal rights to carry a scanner, it still doesn't hurt to be discreet with your radios. Not everyone will understand your love of the hobby, so discretion is the better part of valor, as a man much wiser than I once said.

And, for the sake of your family, don't forget the purpose of a vacation is to spend time with the ones you love. If your wife is as understanding as mine you'll never be asked to turn the radio off. But, once in a while, please take a break, and spend time as a family without your ear stuck to the headphones.

I hope you've enjoyed this whirlwind tour of the Smokies and will find the opportunity to learn and love these magnificent blue mountains. Feel free to E-mail me at either: SBCmusic@aol.com or N9GSU@juno.com.

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# SPACE MONITOR

How To Hear Voices From The Cosmos

## Getting Started In Space Monitoring

*Editor's Note: A special welcome to columnist Keith Stein, who is the editor of SpaceCluster.Com (<http://www.spacecluster.com>). You can contact him via E-mail at [kstein@spacecluster.com](mailto:kstein@spacecluster.com) or write to him in care of Popular Communications, 25 Newbridge Road, Hicksville, NY 11801.*

### NASA ER-2 Frequencies

2.582 kHz (USB mode)  
 14.455 kHz (USB mode)  
 127.700 MHz (AM mode)  
 138.900 MHz (AM mode)  
 290.700 MHz (AM mode)

Many years ago space monitoring enthusiasts had to rely on amateur radio, shortwave and scanner magazines, space interest groups, and word of mouth for information useful to their hobby. Then, in the early '90s came the Internet. Now you can spend hours and hours, searching hundreds of websites, filtering through thousands of pop-up ads, clicking on site after site, to find at the bottom of each web page, "last updated: January 1994."

Well, we hope this column will keep you updated better than any website can. "Space Monitor" will cover the satellite radio spectrum, monitoring equipment, and much more for those of you who want to get the most out of your space monitoring. In addition, we'll also run intercepts in each column from you — the readers — on what you have been hearing from the heavens.

For right now, let's start simple. Yes, the name of the game here is "space monitoring," but let's not limit ourselves to just listening and decoding satellite signals. Anything space related is fair game in this corner of the magazine (satellites, NASA aircraft, space center communications, etc.). This first column will discuss some NASA and military space support aircraft and slowly move into satellite monitoring.

So let's get you set-up in front of your favorite receiver. Are you ready to plug in some satellite frequencies and see what you can hear? Are you ready to listen for the crew aboard the International Space Station? Well, hold on a minute; you just can't jump into things and start punching in frequencies at random or spinning the dial across the band. Let's take this one step at a time.

What should you be listening for? Where should you start? What band should you be in? Does your current receiver cover the satellite bands? How do you know when the satellite is overhead? You have to look at the full spectrum to understand where you are, where you want to be, and how to get there.

We'll start our tour by looking at the high frequency (HF) spectrum, from 3–30 MHz.

To monitor the HF band you'll need a shortwave (SW) receiver, like a Sony ICF-2010, Sangean ATS-818CS, or better. Next thing to consider would be an external antenna, but it's not mandatory. Yes, external antennas are the better choice, but you can still hear a lot on the simplest receiver with its own telescopic antenna. Make sure your receiver has a **single sideband (SSB) mode** — this is mandatory.

Space activity in the HF band is a lot different than in early days of the Sputnik, Mercury, and Gemini missions of the late '50s and early '60s. There used to be a lot of space activity on the HF band way back when, but as technologies advanced so



NASA ER-2 aircraft based at Edwards Air Force Base, California.

did frequency usage. Most everyone has moved to higher ground, like VHF, UHF, L-band, all the way past SHF (the Super High Frequency band). So is there anyone left in shortwave? Sure there is, let's take a look.

### High Flying Research

It has a wingspan of 103 feet, it's 63 feet long, and vertical tail is 16 feet above ground when standing on its bicycle-type landing gear. In addition, the pilot wears a pressurized suit when in flight.

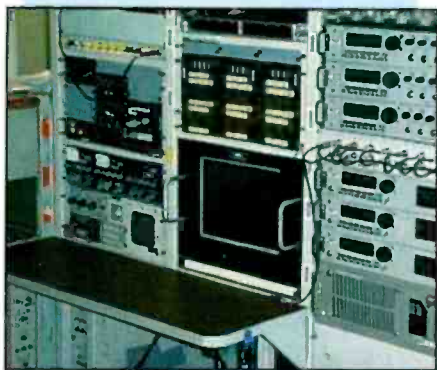
It's called an Earth Resources aircraft. Well that's what the National Aeronautics and Space Administration (NASA) calls it. But with a maximum climbing rate of 6,000 feet per second, this thing could be

Table I

Net	Designation	Day	Time	Frequency
AMSAT	International	Sun	1900 UTC	14.282 MHz (USB mode)
AMSAT	International	Sun	1900 UTC	21.280 MHz (USB mode, inactive)
AMSAT	International	Sun	2300 UTC	18.155 MHz (USB mode, inactive)
AMSAT-NA	East Coast	Tue	2100 local	3.840 MHz (LSB mode)
AMSAT-NA	Mid-America	Tue	2100 local	3.840 MHz (LSB mode)
AMSAT-NA	West Coast	Tue	2000 local	3.840 MHz (LSB mode)

The 15m and 17m nets are inactive until propagation improves.

BY KEITH STEIN <[kstein@erols.com](mailto:kstein@erols.com)>



*HF voice console aboard ARIA aircraft.*

a rocket with wings. Oh wait; they already have one of those, the space shuttle!

The NASA ER-2 is basically a military U-2 spy plane, capable of carrying up to 2,600 pounds of experiments to 70,000 feet; (it did reach 76,000 feet in December 1996). Most ER-2 missions are airborne for six to eight hours covering between 2,200 to 3,000 nautical miles of the Earth's surface.

NASA operates two ER-2 aircraft (radio call signs **NASA806** and **NASA809**) based at Edward Air Force Base, Calif. These hard-working single-seat aircraft are sent on deployments all over the world, supporting NASA/airborne science missions in Brazil, Africa, Sweden, and Kwajalein, just to name a few.

## Radio Amateur Satellite Corporation (AMSAT) Nets On HF

Formed in 1969, AMSAT is a worldwide group of amateur radio operators who share an active interest in building, launching, and then communicating with each other through non-commercial amateur radio satellites. AMSAT nets are operated on HF (See Table 1) to provide coverage of the entire world, and especially North America. You can get the latest news and information on all the current amateur radio satellites in orbit listening to these nets.

## Space Shuttle Air-to-Ground Retransmissions

It's not difficult to listen in on the space shuttle air-to-ground communications, thanks to volunteer amateur radio operators around the world. With their dedicated support, we don't need to have large S-band and Ku-band dish antennas in our

backyards. Crews aboard the space shuttle communicating with mission control are easily heard by tuning your shortwave receiver to the amateur radio retransmissions of shuttle audio.

Two-way signals between the shuttle and mission control are retransmitted on shortwave frequencies, which are listed below. These live transmissions can be heard over thousands of miles in the HF band. These broadcast originate from the amateur radio club station at the Goddard Space Flight Center, call sign WA3NAN. Here is their list of frequencies used during shuttle missions; **3860 (LSB mode) / 7185 (LSB mode) / 14295 (USB mode) / 21395 (USB mode) / 28650 (USB mode)**

## Military Tracking Aircraft

During some satellite launches you can monitor U.S. Air Force or U.S. Navy aircraft tracking the rocket in flight. U.S. Air Force Advanced Range Instrumentation Aircraft (ARIA) at Edwards Air Force Base, Calif., and U.S. Navy P-3 Orion's based at Point Mugu, Calif., act as an airborne relay station. Once a launch is performed from the Cape Canaveral Air Force Station, Fla., or Vandenberg Air Force Base, Calif., the ARIA's or Navy P-3 will pick-up the radio signal from the rocket and relay data back to launch control.

Not only do they support satellite launches, the ARIA's have been used to monitor cruise missile launches, and monitor meteor showers. Both ARIA and Navy P-3's can be deployed to some of the most remote spots around the globe to provide tracking support.

These aircraft can be a big challenge to catch on the radio. They can pop-up almost anywhere on the HF band, but we can provide some help with these frequencies used in the past, including:

- 4.486 (USB) Western Test Range (WTR)**
- 5.700 (USB) Western Test Range (WTR)**
- 6.820 (USB) Western Test Range (WTR)**
- 6.889 (USB) Western Test Range (WTR)**
- 10.352 (USB) Western Test Range (WTR)**
- 11.110 (USB) Western Test Range (WTR)**
- 13.218 (USB) Western Test Range (WTR)**
- 13.900 (USB) Western Test Range (WTR)**
- 15.793 (USB) Western Test Range (WTR)**
- 5.711 (USB) Eastern Test Range (ETR)**
- 6.937 (USB) Eastern Test Range (ETR)**
- 7.765 (USB) Eastern Test Range (ETR)**
- 9.043 (USB) Eastern Test Range (ETR)**
- 10.780 (USB) Eastern Test Range (ETR)**
- 11.407 (USB) Eastern Test Range (ETR)**
- 11.414 (USB) Eastern Test Range (ETR)**
- 15.560 (USB) Eastern Test Range (ETR)**

- 20.390 (USB) Eastern Test Range (ETR)**
- 11.175 (USB) Global HF System**
- 15.016 (USB) Global HF System**

## Radio Sputnik 12 & 13

Radio Sputnik 12 (RS-12) and Radio Sputnik 13 (RS-13) are two electronic packages integrated into the Cosmos 2123 Russian navigation satellite, launched on Feb. 5, 1991 from the Plesetsk Cosmodrome in northern Russia. The satellite orbits at 620 miles (997.8 kilometers) above the Earth and circles the globe every 105 minutes. It passes over any given location on the earth from four to 11 times a day, depending on your latitude. RS-12 & RS-13 are amateur radio satellite packages that contain analog radio transponders, allowing two-way amateur communications as well as having beacons and a unique automatically responding computer called a ROBOT.

But when do they pass over your area? We'll have to save that deep discussion for a future column. But these RS satellites pass over frequently and are very easy to catch. Many computer programs are available to determine when the satellites will be in range of your location. Check <http://www.amsat.org>.

Both packages support CW (also known as Morse code), in single side band mode (SSB). Since the RS-12/13 satellites are usually only in range for 10-15 minutes maximum, transmissions are often short.

## RS-12 Downlink Frequencies

- RS-12 Beacons 29.408 & 29.454 MHz
- RS-12 29.410 — 29.450 MHz
- RS-12 145.910 — 145.950 MHz
- RS-12 Beacons 145.912 & 145.958 MHz

## RS-13 Downlink Frequencies

- RS-13 Beacons 29.458 & 29.504 MHz
- RS-13 29.460 — 29.500 MHz
- RS-13 145.860 — 145.900 MHz
- RS-13 Beacons 145.862 & 145.908 MHz

Another easy satellite is RS-15, the same basic concept of the RS-12/RS-13 packages. RS-15 was launched on Dec. 26, 1994 from the Baikonur Cosmodrome in Kazakhstan.

## RS-15 Downlink Frequencies

- RS-15 29.354 — 29.394 MHz (CW/SSB)

RS-15 Beacons 29.352 MHz (CW/SSB, intermittent)  
 What would you like "Space Monitor" to do for you? What articles and information would be of particular interest to you? Let us know. We look forward to hearing from you and serving you.

## Monitoring Reports

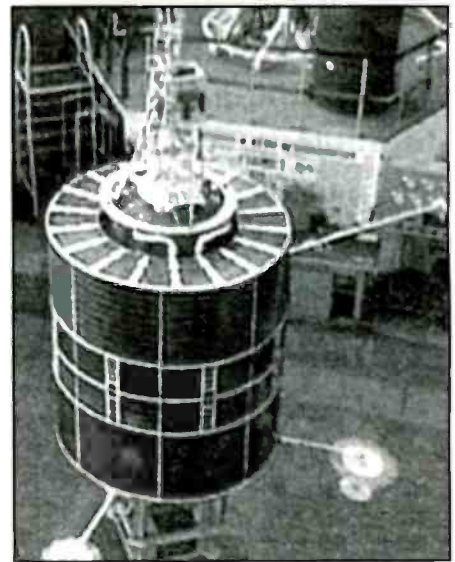
All times in UTC. All voice transmissions in English unless otherwise noted.

128.625: NASA 607 (DHC-6 Twin

Otter), NASA 616 (Learjet), NASA617 and NASA856 all heard talking with NASA OPS, AM mode (Mike — Ohio). NASA607, 616, and 617 are based at Cleveland International Airport. NASA856 is based at Edwards AFB, Calif. (Keith).

137.930: Copied a signal from Megsat 0 in FM mode sending a beacon every 10 seconds at 1230. The signal was low, but clear (Gustavo Carpignano — Buenos Aires, Argentina).

143.625: International Space Station crew heard in Russian and English, from



Cosmos navigation satellite carrying Radio Sputnik amateur radio packages.

0724 to 0728, NFM mode. U.S. astronaut Bill Sheppard asking Houston if they had room on the shuttle to take 20 non-collapsible food containers, or will they have to put them in the Progress. Also one of the Russian cosmonauts was speaking some English (Chuck — Detroit, Mich.).

166.000: Picked up signals from either the Russian Mir space station, or Progress cargo ship between 0657-0700. This was after the Progress had docked with the Mir at 0531. Also heard signals on 922.750 (Sven Grahn — Sweden).

255.400: NASA 962 (T-38N), at flight level 370 requesting weather at Huntsville, AM mode (Dave — Central Alabama).

259.700: Space Shuttle Atlantis heard briefly around 2335, and Houston, we are just ready to do NPS power down and isolation and ??? AM mode (Rene Hugtenburg — Netherlands).

261.950: The JTF-FA net in Southeast Asia was active. Heard TIGER BASE, EAGLE 3, and JAGUAR, with calls to PANTHER, LEOPARD, and LION. Signal strength is quite good on all stations (Tony — Willamette Valley, OR). Could be a downlink frequency for UHF Follow-On geostationary satellite, ch. 16 (25 kHz) Papa, relay (Keith).

270.250: NASA 901 (T-38N) at flight level 300 requesting a victor frequency, female pilot, AM mode (Dave — Central Alabama).

343.700: NASA809 (ER-2 aircraft) heard in the climb, AM mode. Switched to 348.700 (D. Stijovich — west of March Field).

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<p><b>20MHz Sweep / Function Generator with Frequency Counter Model 4040</b></p> <p><b>\$425</b></p> <p>* Special *</p> <ul style="list-style-type: none"> <li>• 0.2Hz to 20MHz</li> <li>• AM &amp; FM modulation</li> <li>• Burst Operation</li> <li>• External Frequency counter to 30MHz</li> <li>• Linear and Log Sweep</li> </ul> <table border="0" style="width: 100%; font-size: 0.8em;"> <tr> <td>10MHz Model 4017</td> <td>\$325</td> </tr> <tr> <td>5MHz Model 4011</td> <td>\$255</td> </tr> <tr> <td>3MHz Model 4003</td> <td>\$205</td> </tr> </table>	10MHz Model 4017	\$325	5MHz Model 4011	\$255	3MHz Model 4003	\$205	<p><b>Elenco RF Generator with Counter (trans. history) Model SG-9500</b></p> <p><b>\$225</b></p> <p>Features internal all mod of 10kHz RF output (100W - 500W), Audio output thru @ 1V RMS, SG-9500 (battery w/ counter) \$124</p>	<p><b>Elenco Power Supply Model XP-603</b></p> <p><b>\$85</b></p> <ul style="list-style-type: none"> <li>• 0.30VDC @ 3A Output</li> <li>• 3A Fuse Current Protection</li> <li>• Current Limiting Short Protection</li> <li>• 0 (0.01%) Output Impedance</li> </ul>
10MHz Model 4017	\$325							
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<p><b>Model M-1005K</b></p> <p><b>\$19.95</b></p> <p>Digital Multimeter Kit</p>	<p><b>Model RCC-7K</b></p> <p><b>\$29.95</b></p> <p>Radio Controlled Race Car Kit</p>

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# THE HAM COLUMN

Getting Started As A Radio Amateur

## Two Meters, Four Wheels

I don't know what the weather is like in your neck of the woods, but as I write this month's "Ham Column," I'm literally buried in snow. Well, my neighborhood is, to be more precise. At any rate, I've had enough. This winter's snowfall has exceeded that of the past two combined. I've already had to change the oil in my snow blower — twice. The whole mess has me fantasizing about warm spring breezes, open spaces, the dotted white line, and the throaty roar of the headers. Ah, the sweet smell of spring! The back roads through lake country. Little taverns here and there, with home-style cooking and pickled pig's feet in a big glass jar — anything but snow.

The perfect companion for the road trip described above is a trusty 2-meter radio — handheld or dashboard mounted. Have radio, will travel. It's the perfect rite of spring (and this is the May issue!). Besides, working the same three guys across town on your hometown repeater has its moments, but taking your radio on

a cross-country jaunt will really broaden your radio horizons. You'll enjoy added safety, increased fun, and likely make a batch of new friends along the way.

Before hitting the road, make sure you know how to use your radio — especially the tricky programming functions you use only occasionally (setting repeater splits and sub-audible tones, for example). Brush up on how to power your handheld (from batteries and from your car's cigarette lighter socket) and boost its signal (car-mounted antennas, bigger "rubber duckies" and so on). A little extra effort up front will make life on the road a lot easier! And don't forget to review repeater etiquette and procedures, too!

### Radio Roadtrips

While traveling, most of the repeaters you'll use will be on frequencies other than the ones you're used to. How will you know what those frequencies are and where the repeaters are located? Various

Repeater Directories, pocket-size repeater frequency references, are available from your favorite ham radio dealer. They're a must-have for traveling VHF and UHF operators. In a pinch, try Radio Shack's North American Repeater Atlas. Some directories even come on CD-ROM and will work with your laptop computer.

Accessing repeaters on the road is a lot like using the ones you're familiar with close to home. Common sense will take you far, as will common courtesy. And don't be shy about letting people know you're on the air and traveling through their little corner of the world. Most hams will welcome you to whatever machine you're keying up. The few who won't aren't worth bothering with anyway.

Here are a few tips to increase your 2-meter mobile enjoyment:

- Listen to new repeaters before transmitting (if you have an emergency, however, step right up and key the mike). Often, the machine's voice controller will periodically announce any special operating procedures (or events taking place).

- To let people know you're around, simply say, "This is WLXYZ monitoring." Or, while being brief, be a bit more revealing. "This is WLXYZ from Hartford, Connecticut, traveling through Ottumwa on County Road B." Or be specific: "This is WLXYZ. I'm just east of Ottumwa and I'm looking for directions." Ham radio still is a friendly hobby. Don't be afraid to let people know you're interested in chatting.

- Don't kerchunk the repeater! Pause briefly after each transmission to keep the machine clear for emergency traffic.

- If you get a rip-roaring conversation started, move to a simplex frequency, if possible. That will free up the repeater for more mobile traffic. (In some rural areas, repeaters are almost never busy. If the locals seem content to ragchew on their machine, feel free to follow their lead —

### Electronic Elixir of the Gods

If certain people knew I was divulging the source of what is arguably the most useful liquid ever formulated for computer and communication electronics technicians and experimenters, I'm sure I'd have a price on my head. The smart tech's secret weapon is called Stabilant 22, and it's manufactured by DW Electrochemicals in Toronto. Stabilant 22 is a liquid semiconductor, but you should think of it as an "amazing contact enhancer."

Smear a drop or two across the contacts of any PC plug-in card and you'll never have to worry about intermittents. The same thing goes for computer RAM modules or plug-in audio connectors. Stabilant 22 eliminates contact and connection problems — period. And don't worry about unwanted electrical connections. Stabilant 22 is only conductive across the microscopic distances found between conductors and connectors that are physically touching one another. This stuff has saved me countless headaches over the past 10 years. I only wish I'd discovered it earlier. You can call DW Electrochemicals at 416-889-1522.



*Stabilant 22 is a must-have for radio techs.*

BY KIRK KLEINSCHMIDT, NT0Z

remembering to pause after transmissions, of course!)

## The Hows And The Whys

If you're stuck in a radio rut, try these activities on for size. Remember: You may make so many new friends along the way that extra time may be required. You'll also come up with your own activities and procedures once you're underway. Have fun!

- **Ragchewing:** Ham radio's oldest activity is the mainstay of many radio-active travelers. On 2 meters, towns, repeaters and conversations come and go periodically depending on geography and population. There are a lot of interesting people to chat with, that's for sure. With your rig along, you'll meet them for yourself. You'll discuss skydiving, cookie recipes, steam tractors, wild nightclubs — or all three! Just be sure to coax the "lurkers" into action by your "This is WLXYZ travelin' through" calls on newly discovered machines.

- **Travel Emergencies:** This is why many hams carry VHF/UHF radios (or cellular phones) in their cars. The nature of your emergency will determine how you use the local radio systems. If lives are at stake, don't worry about etiquette — get in there and grab the mike. Emergency ops have the whole show, so if your need is legitimate, everyone will assist you.

- **Asking for Directions:** Although not exactly ragchewing, asking for directions often can whip up a good conversation.

Some hams seem to live to dispense travel advice, and somehow they know every nook and cranny of the surrounding countryside. These folks are priceless resources for travelers.

- **Eye to Eye:** If your cross-country pace is leisurely, on-air ragchews can occasionally lead to face-to-face encounters (called an "eyeball QSO" in some parts). You'll probably be invited to lunch or coffee, or to see someone's new ultralight airplane, or whatever! In addition to the friends you'll likely make, these side adventures could be more interesting than your planned destinations, so don't discount them up front!

- **Bacon and Eggs?** In many parts of the country, hams in each area get together for a Saturday morning breakfast that's usually held at a local family restaurant (days and times vary regionally, so ask around). The hour that these group get-togethers commence usually depends on tradition and the average age of those attending: Old-timers usually get up early, baby boomers often like to sleep late on weekends. Some Saturday morning groups hang around for stragglers all morning long.

- **Flea Markets and Hamfests:** What traveling ham could bypass a hamfest? Certainly not me! The hamfest calendar listings in *CQ* or *QST* will keep you up to date on most hamfests and swap meets. And don't worry about finding the place: Someone will always be able to "talk you in" via repeater or simplex. Ask around for unpublicized radio events, too. They're out there!

- **Public Service Monitoring:** Many modern FM handhelds receive frequencies outside the 144- or 440-MHz amateur bands. These frequencies, from about 118 to 174 MHz, include aeronautical, police, fire, sheriff, trains, public service, federal, government, military, and business, among others. Some newer rigs even double as VHF scanners, adding fun to what might otherwise be boring miles. Yet, some states restrict mobile scanners, so be sure to behave appropriately — at least in situations where your radio may be eyed suspiciously by authorities. A run-in with the local authorities won't improve your itinerary!

- **Funnel Clouds and Flash Floods:** NOAA weather radio broadcasts on 162.400, 162.475, and 162.550 MHz are run by the National Weather Service. These continuous broadcasts contain weather forecasts, observations, and alerts for whatever area you happen to be traveling through. If your 2-meter rig can receive the NOAA broadcasts, you'll have a 24-hour "weather channel" along for the ride.

- **Hiking and Cycling:** If your travel destinations include more adventurous outdoor activities, your handheld transceiver will more than likely be up to the tasks of emergency and casual communications (and it may help you receive weather alerts). The same considerations apply, although weight and bulk probably will be more important. If your outdoor adventure party includes other hams, having your handheld in your gear makes even more sense.

- **A Room With a View:** Elevation and VHF go hand in hand. During your travels you'll probably come across some type of towering structure, natural or man-made. If you're going to the top — even if it's to a hotel room on the 24th floor — take your HT along. See how far it'll "get out." If conditions are right (summer is the season), you will be surprised! Be careful: This may be addictive!

This short list of travel activities is far from complete, but I hope you can see that there's a lot of fun to be had in making your FM rig a mandatory traveling companion. Here's to the open road — and open repeaters!

Your suggestions, letters, and QSL cards are always welcome. Write to me at "The Ham Column," 25 Newbridge Rd., Hicksville, NY 11801. ■

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# HOW I GOT STARTED

## Congratulations To Noel R. Condez Of The Philippines



Noel Condez at his radio post in Corabato City, Philippines.

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

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

The person whose entry is selected will receive a one-year gift subscription (or one-year subscription extension) to *Popular Communications*. Address all entries to: "How I Got Started," *Popular Communications*, 25 Newbridge Road, Hicksville, NY 11801 or E-mail your entry to [popularcom@aol.com](mailto:popularcom@aol.com), letting us know if you're sending photos. If you're E-mailing photos, please send them in a separate E-mail with your name in the "subject" line.

### Our May Winner

From Cotabato City, Philippines, *PopComm* reader Noel R. Condez says, "When I was six my father brought home a transistor radio; a gadget rarely found in a Filipino home in the early '60s. We were then able to listen to the VOA Special English Program broadcast through local stations in Manila. Since Manila is too far, we had to put up an aerial. CW signals from a local telegraph

office, however, interfered with reception. Tinkering with the ground connection in a desperate attempt to eliminate the noise enhanced my interest in DXing.

My first DXing equipment was an FM wireless microphone and an FM monitor with makeshift antenna. Later I received a walkie-talkie from my brother — my first encounter with a true transceiver.

After landing a job I bought a pair of

ICOM VHF transceivers. Getting ideas from books and borrowing test instruments from friends, I experimented making antennas, which later proved to have lower SWR, higher gain, and wider frequency range than commercial ones. Soon I acquired a Class D amateur license and a more powerful and advanced transceiver which I still use today. For me, life is miserable without DXing." ■

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# THE RADIO CONNECTION

A Look Behind The Dials

## Building A Tube Power Supply

I've received a lot of mail concerning the MK484 TRF receiver chips, so here's the update on our progress. I've learned that my Hong Kong distributor is vacationing in the Antarctic regions until spring, which means I won't have any information regarding the availability or price of these items for some time. Meanwhile, I'm researching other possible sources for the device for a quantity purchase. Stay tuned; I'll keep you informed through the column. In the meantime, please don't write asking about the devices since I have no information on availability or price at this point; and keeping track of numerous requests is a daunting task for us organizationally challenged individuals.

### A Summer Project!

John Haught's Night Hawk one-tube receiver, featured in our January 2001 column, continues to generate a lot of reader interest, so now is as good a time as any to showcase it as our next project. I have yet to come up with a decent AC supply for the Boy's First Receiver, and a lot of you have been asking for a simple AC-operated receiver project. For the experimentally inclined, I'll show a few possible circuits for an AC power supply for the Boy's First Receiver later in this column. Bear in mind this is a paper design, untested and unproven. Getting back to the Night Hawk, Richard Yingling, WB3COB, offers these suggestions: "The original article was in the January 1967 issue of *Electronics Illustrated*. I use a 6BZ7/6BQ7 in my receiver — it is cheaper than the 12AT7. A good source for 365-pF variable capacitors is [www.crystalrad.com](http://www.crystalrad.com), RogRad Co., 313-277-2529."

Richard, thanks for the tips. I will include base diagrams for both tubes so builders may use either the 6BQ7 or 12AT7 dual triodes in the *Pop'Comm* version of the Night Hawk. Continuing his comments regarding the Night Hawk in a second communiqué Rich goes on to add: "My receiver also has a 12BA6 RF amplifier ahead of the 12AT7 regenera-



Front view of John Haught's Night Hawk receiver. The Night Hawk will be our next Radio Connection project!

tive detector. A 12VA6 follows the 12AT7 audio stage to provide additional gain to better drive headphones. The original power supply caused too much hum — and the many articles I've read about Hartley regens indicate that hum is a common problem. Using a filtered DC filament power supply helps. I can send you a copy of the schematic if you're interested." Darn tootin' we're interested — an add-on RF stage would be a great follow up exercise!

Joe Crawford, W4AAB, offered these comments and suggestions: "I was reading the January *Pop'Comm*, where John Haught mentioned the *Practical Electronics* book published in 1966 by *Electronics Illustrated* magazine. That was the first electronics book I had ever seen; and I'd like to have a copy of the schematic of that one-tube radio. The horizontal mounting of the 12AT7 reminds me of the old trick from the 1930s to make HF tubes work on VHF! Fawcett Publications had lots of good books of that type.

"I built a 6AQ5 40-meter CW transmitter; and eventually planned to add a

pair 6AQ5s for AM modulation. The 6AQ5s would be driven by 6C4 triode as a phase splitter from a 12AT7 preamp. I also built a 6C4 driving a 6AQ5 for 160 meters! I've repaired a lot of good receivers. The local National Guard unit had me repair an AN/GRR-5 1.5 to 18 MHz receiver; it was chock full of those 1L4, 1U4, 1L5 type battery tubes. I breadboarded up a bridge rectifier using four 1N4007 diodes — and eventually repaired two of those receivers that way. I enjoy your column; 73, Joe Crawford, W4AAB."

Hello Joe! Thanks for writing. I will be including a copy of the original schematic in an upcoming issue, along with a schematic showing some proposed changes we will be adding to the original design. I'm planning on adding a 6AQ5 or similar pentode for loudspeaker operation — folks have commented that it is something they want to see. Thanks to Rich, we may also eventually be adding an RF stage to boot! I'd eventually like to do some simple AM and CW transmitter projects along the same directions you've taken, although I'm wondering if

BY PETER J. BERTINI <[RadioConnection@juno.com](mailto:RadioConnection@juno.com)>



this would interest "The Radio Connection's" readers. If so, let me know. QRP, or low power, amateur radio communications is a lot more fun using real radios that glow in the dark!

Speaking of 6AQ5s, here's a few more comments regarding the Night Hawk from Adrian Nesnadny: "Peter, regarding your January 2001 column, John Haught certainly does outstanding work with his construction projects. The Night Hawk receiver project sounds like a real winner!

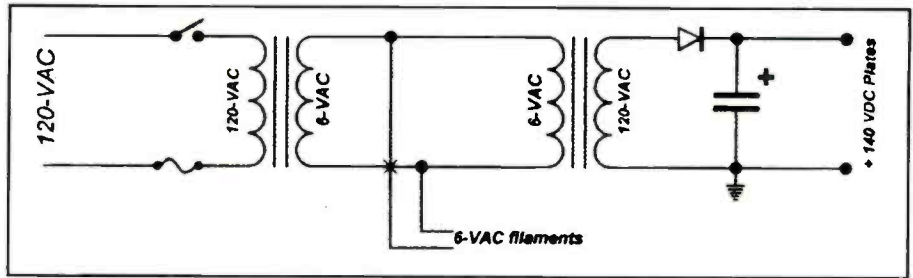


Figure 1A. Two back-to-back low-voltage transformers are combined to provide by filament and B+ voltages for a small receiver.

Figure 1B. Transformers with a dual voltage 120/240-volt primary winding and a 12-volt center-tapped secondary can provide six or 12 volt filament voltages, while offering full-wave rectification for better filtering.

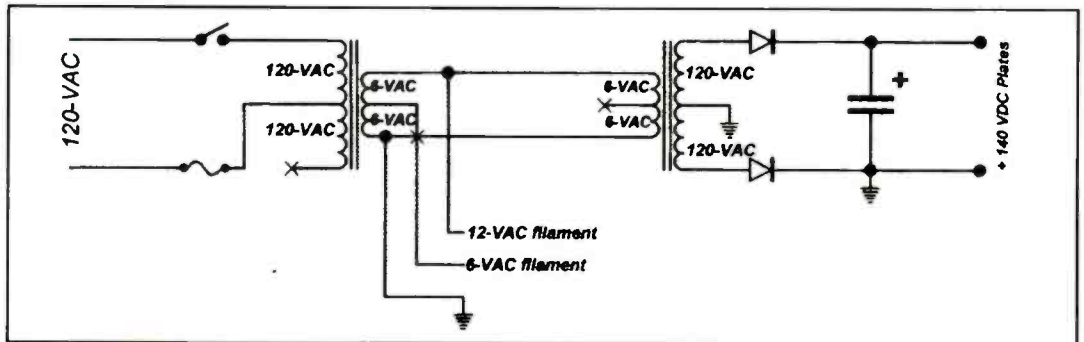


Figure 1C. Using a dual voltage primary in reverse yields two B+ voltages. The lower voltage could power a simple tube oscillator driver stage, while the high voltage is used on the final stage. Simple half-wave rectification is used.

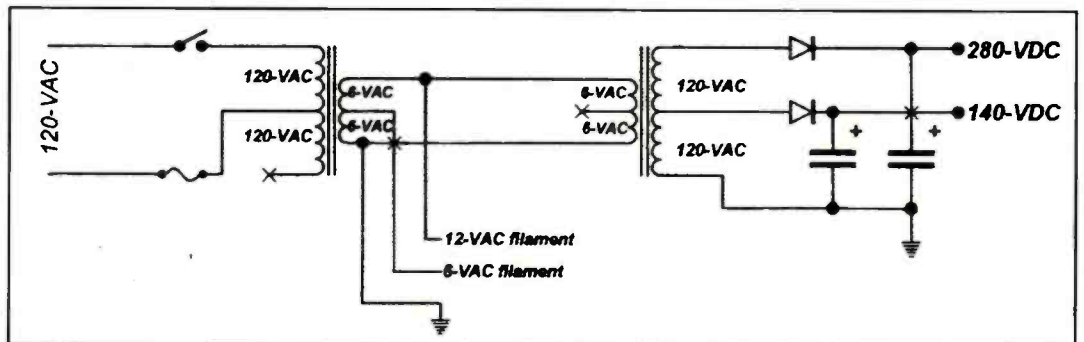


Figure 1D. In this design, the dual voltage primary is being used as a secondary with a full-wave bridge to supply high- and low-level B+ voltages with improved filtering over that offered by half-wave rectification.

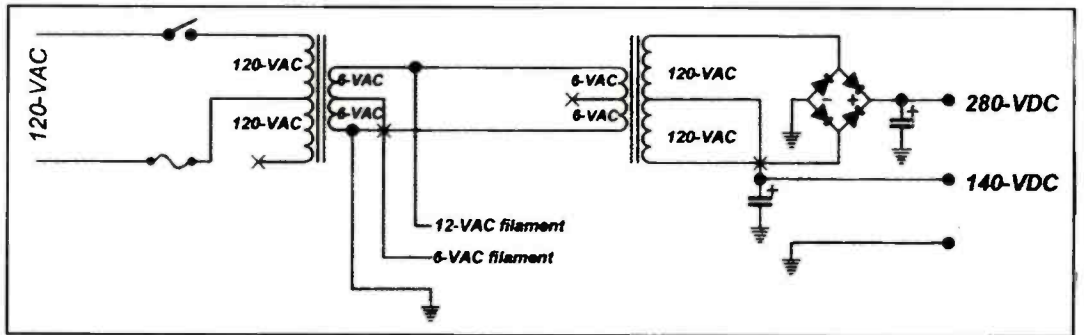
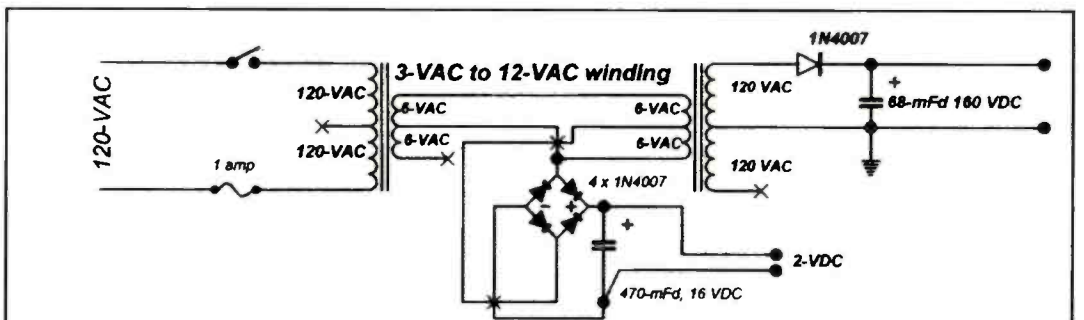


Figure 1E. This is a possible AC power supply for the Boy's First Receiver. It supplies both filtered and rectified filament and low B+ (about 45 volts) to power the battery set. The circuit is a bit complex, and its operation is covered in the text.



Simple AC supply for the Boy's First Receiver

Please include the additional amplification stage for loudspeaker operation! May I suggest using a 50C5 — I know I have that tube! I'm viewing this project as a modern update to my trusty Knight-Kit Space Spanner, which I still use on a regular basis."

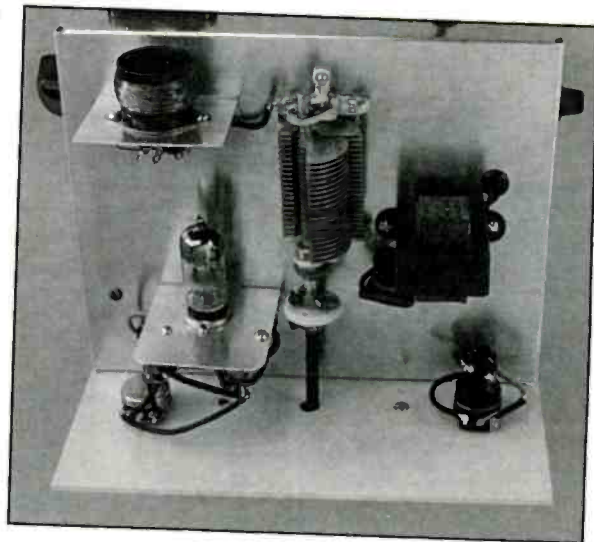
Adrian continues: "I finally completed the audio amplifier for the Boy's First Radio project and it has made a significant improvement in reception. I also built the Selective Crystal Set, but haven't had too much success due to antenna limitations. Accordingly, I bypassed the Mystery Crystal Set for the same antenna considerations. I look forward to reading your column every month —Adrian Nesnadny, WB2BSH."

Adrian, thanks for your input. Yep, there are a lot of 50C5s around, but the problem is the high filament voltage. My goal is to keep the set transformer operated, and the 50-volt filaments do present a problem. I will look around to see what cheap 12-volt audio tubes could be substituted with a minimum of fuss. I'm also not sure how much of a modern adjunct the Night Hawk will be compared to your Space Scanner, which was an extremely popular little set and good performer! Although it is not an ideal solution from a purist's viewpoint, many folks with antenna restrictions have used active antennas with crystal sets with good results.

## Building A Tube Power Supply In 2001

The first task to be solved is finding parts for the power supply. Back in 1966, when the original article was published, small power transformers suitable for tube equipment were carried by Allied and many other electronic parts distributors. (I still find it hard to accept I was a senior in high school in 1966!) Most of these transformers included a high-voltage winding for the B+ plate voltages, and a filament winding (or two or more) for the tube and rectifier filaments. Today, with everything being solid state, the market for new high-voltage transformers is limited; and when you do find them, they're rather pricey. One possible alternative is scrounging a suitable transformer from a piece of tube equipment — say from an old amplifier or FM tuner, or a transformer salvaged from an old AC tube radio. Many early UHF TV tuners were transformer operated, and had a transformer capable of operating a very simple one-tube receiver — sans amplifier — without much effort.

There's a better, and much cheaper alternative, to the Allied type 61U410 power transformer originally specified by the author, David Green, W6FFK. As an aside, I was interested in reaching David for some background information on his set, but alas a QRZ Internet search for W6FFK yielded no information. Given the vintage callsign, which was no doubt an original issue, and date of publication; W6FFK may be a silent key.



*A rear view of John's neatly constructed Night Hawk receiver.*

## Let's Talk Power Supplies

Don't worry if the following discussions are a bit too technical or confusing. I'll be spelling out the exact component values and how to hook everything up in future columns. If you were able to keep up with the Boy's First Receiver, you'll do fine with the Night Hawk project as well.

**Figure 1** shows several neat, quick, and inexpensive methods for producing the voltages needed for simple tube projects. The means to this end is done by using two filament transformers, back-to-back, to first step the AC voltage down to six or 12 volts, and then back up to 120 volts AC for rectification and filtering for the plate voltages.

Let's take a quick look at **Figure 1A**. Here's a simple supply, using two 120-volt to 12- or six-volt transformers, to power six- or 12-volt tube filaments, and also the high voltage plate potentials needed to run a simple receiver or one-tube transmitter. The maximum DC output voltage will be around 1.4 times the AC voltage; or about 160 Vdc when the supply is operated without a load. This is because we measure AC voltages using an RMS value, which is equivalent to the power delivered by a DC voltage of the same potential into a given resistance. The power supply filter will try to charge to the AC voltage at the crest of the sine wave, which is found by multiplying the RMS value by 1.414.

Again, for circuit 1A, we could use a 120 VAC to 6 VAC transformer on the input side, and a 120 VAC to 12 VAC transformer operated "backwards" on the B+ supply side. This would yield about the maximum DC voltage obtained in the previous circuit.

Using transformers with dual 120/240-volt primaries and 12-VAC center-tapped secondaries will allow an extremely wide variety of possible voltage configurations. For example, the second transformer can be used with a half-wave rectifier(s) or full-wave bridge to produce a wide variety of output voltages, as shown in **Figures 1B** and **1C**. As you can see again, by running the second transformer 12 volt winding from a six-volt source will halve the available voltages on the secondary. **Figure 1D** shows a supply that will deliver both six or 12 volt filament voltages, and high and low level B+ voltages.

## Powering The Boy's First Receiver

**Figure 1E** shows a possible power supply hookup to run the Boy's First Receiver. We start with a 120/220 dual primary transformer with a 12 VAC center-tapped secondary. Running the 220-volt primary on 120 volts gives us 6 VAC center-tapped on the secondary windings. Running the 3-VAC from one leg of the secondary and center tap to the 12-VAC windings of another identical transformer gives us an autotransformed 1.5 VAC filament source obtained between one leg of the second transformer's 12-VAC secondary (which is being used as a primary) and center tap. This is connected to a full-wave bridge rectifier and filtered, giving an approximate 2.1 volts filtered DC to operate the filaments of a type 30 or 1H4 vacuum tube (with suitable dropping resistors, please). Or, you can use the 3-VAC filament source and rectify it if the 1.5 VAC supply yields too low a DC filament

voltage. You can always fine-tune the filament voltage using a suitable dropping resistor if it is found to be slightly high.

The Boy's Receiver needs a B+ supply of around 45 volts maximum. Since we are applying 3-VAC to the 12-VAC winding of the second transformer, its 120 volt primary winding will be about  $\frac{1}{3}$  of that value, or about 30 volts AC. Thus, once rectified and filtered we can expect to see between 40 and 45 volts DC at the output. This is only a paper design; builders should expect to do some fine tweaking regarding voltages and the capacitor values needed for filtering. If one of our readers gets an AC supply running for the Boy's First Receiver, I'd love to run the details in the column!

### Powering The Night Hawk

Next month we'll cover the design I've settled on for the Night Hawk's power supply. I'll be showing two possible schematics, one for dual primaries and center-tapped transformers, and the other for more conventional single-voltage primaries with tapped secondary windings. The 12AT7 can be run on six or 12 volts, so either secondary filament voltage will do. The 6BQ7 and the 6AQ5 both need six volts. I'll give a source for some very inexpensive transformers in the next issue — and much cheaper than what you will find at the local emporiums.

The original design called for a 120-VAC secondary with a 15-mA rating. Adding a 6AQ5 power pentode audio stage running Class A will add another 30 mA or so to the B+ secondary load. Let's assume 50 mA total at 130 VDC to be conservative. Since power is equal to voltage times current, the total wattage needed for the B+ portion of the supply is around six watts. The 6AQ5 filament draws .45 amps at six volts, and we can assume another .4 or .3 amps depending on whether we use a 6BQ7 or 12AT7 for the regenerative portion of the receiver. Rounding it off to an even one amp at six volts, we see that another six watts are needed for the filaments. Adding it all up shows the secondary load on the input transformer will be a minimum of 12 watts. This means we need a transformer that can deliver at least six volts at two amps, or 12 volts at one amp. The transformer used to supply the B+ is drawing about  $\frac{1}{3}$  of this power (six watts), so its "secondary" only needs a six-watt power rating (six volts at one amp, or 12 volts at 500 mA). Either transformer is readily

available. Don't worry about the math, as I said earlier, I'll specify the exact transformers you need in the next issue of *Pop Comm* when we start assembling and testing the supply. These can be ordered from Hosfelt Electronics, so you might want to request their latest catalog to get a head start! You can reach Hosfelt at 800-524-6464, or by writing to Hosfelt Electronics, 2700 Sunset Blvd, Steubenville, OH 43952-1158.

### A Project Suggestion

"I have really enjoyed the tube and crystal radio projects. I am glad *Popular Communications* and you have not forgotten how much fun it is to build radio projects" Delmar Mckoy writes us. Continuing, he adds: "I hope you have many more radio projects coming in the future. My idea for a radio project is to take a radio tube schematic of an early superhet set, and instead of tubes, use transistors in place of them. The design of the receiver does not change except where the transistors go. I've been wanting to do this for many years but I don't know how to make my own IF transformers. Thank you, Delmar."

Building a superhet is well beyond the ken of many of our readers, and is a task I wouldn't want to undertake from scratch. I'll offer a few suggestions, however. Transistor IF transformers are readily available: Mouser Electronics carries them in their current catalog 800-346-6873. You'll find that achieving a good impedance match will be neigh impossible using IF transformers designed for tube circuit impedance in a low-voltage transistor application. You might get by with MOS-FET devices, or by using some sort of capacitive voltage dividers to achieve matching (involving extensive rework of the transformers) but it would be far easier to use the proper components. Unfortunately, this isn't as easy as it might first appear. ■

#### Radio Repair Tip

Troubled by badly yellowed or discolored plastic dial covers? Ken Doyle offers this restoration tip: "Soak the dial in Palmolive and water for a few hours. They often come out clear — surprised me!"

This doesn't always work on all dial covers, but if it saves the occasional cost of having a 15-dollar replica made, it is worth trying!

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# CB SCENE

27 MHz Communications Activities

## You Can't Do That On CB

Just when you think that the FCC has all but given up on CB, they surprise you. Now, relax. I don't know of any new efforts under way to clean up CB or to crack down on Freeband operators, but the increased enforcement activity on the amateur bands is still occasionally spilling over to 11 meters.

On January 11, 2001, two amateur operators received warning letters from the FCC accusing them of "operating on CB frequencies transmitting sound effects, keying on top of ongoing communications and otherwise deliberately interfering with ongoing communications and making threats on the CB service channels." They are **Michael T. Gruttadavria, KC8NMW**, of Willoughby, Ohio, and **Richard H. Knox, KC5UOW**, Jacksonville, Arizona.

While Freebanders seem to be in little danger from recent FCC enforcement actions, their equipment suppliers could be starting to feel a little heat. One case in particular is that of **Stephen Fowler**, owner/operator of Exports R Us in Pineville, Louisiana. On September 28, 2000, after offering to sell a foot warmer (illegal external power amplifier) to an undercover FCC agent, Fowler was issued a Notice of Apparent Liability. On December 28, 2000, after failing to con-

vince the Commission that he was not liable, he received a Forfeiture order for a cool \$7000 by the Chief of the FCC's enforcement bureau David H. Solomon.

Even sales among individuals are coming under pressure. According to the October 30, 2000, edition of the ARRL's "Hudson Loop" E-mail newsletter, the FCC is to monitor auction sites, such as eBay and Yahoo for illegal items. "The FCC," the article reports, "says it has reached an agreement with the eBay auction site that's aimed at curtailing the sale of clearly illegal radio equipment. FCC Special Counsel for Amateur Radio Enforcement Riley Hollingsworth says eBay has agreed to cooperate in removing advertisements in which the item for sale "is clearly non-certified" under FCC rules. Hollingsworth said most of the equipment involved falls into the CB category, including illegal amplifiers.

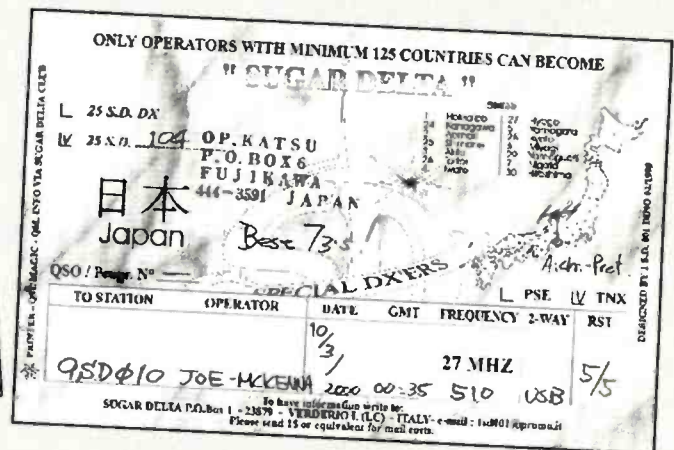
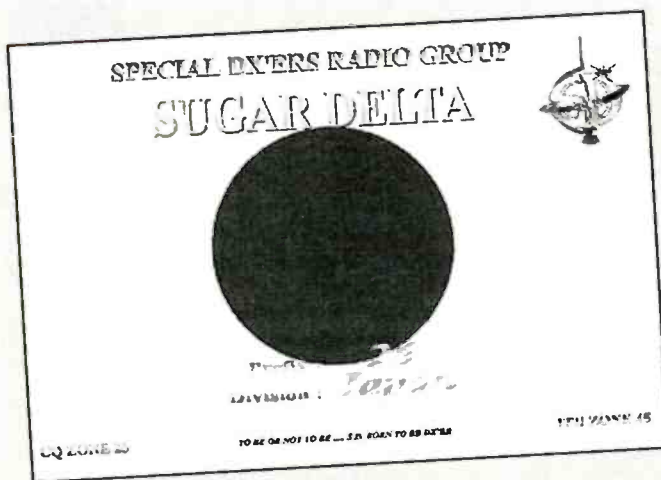
It appears a review team within the Technical and Public Safety Division of the FCC Enforcement Bureau is screening eBay ads each week. The practice could be extended to other auction sites if the FCC learns of similar problems. Hollingsworth says he sees about 10 complaints a week about auction site radio gear advertisements. Initially, Hollingsworth suggested sending com-

plaints to [fccham@fcc.gov](mailto:fccham@fcc.gov). That however may have generated a little more mail than he wanted. By mid-January, 2001, he distributed the following appeal: "At your earliest convenience, could you announce that effective immediately, the new address to which complaints about eBay, Yahoo, and other auction/sales sites and advertisements for illegal equipment should be **FCCINFO@fcc.gov**, **INSTEAD** of **FCCHAM@fcc.gov**. Thanks." You are welcome. Riley, anything we can do to help, just ask.

### eBay Guidelines

So, just what are the current guidelines for selling gear on eBay? Glad you asked. Here they are fresh from the eBay site.

**Extended Coverage High Frequency Transceivers** — Equipment that is intended to operate in various radio services in the high-frequency radio spectrum, including "10-Meter" Amateur Radio Service (ARS) equipment, is lawful and may be sold. However, some items of this nature that are capable of transmitting, and are being operated, in nearby frequency bands allocated to other radio services such as the Private Land Mobile Radio Services, Maritime Services, Auxiliary Broadcast Services,



International Broadcasting Services, the Citizens Band Radio Service, and the U.S. Government. Operation of this equipment causes interference to the authorized users of these frequencies. Users may not list a high-frequency transceiver that is designed to operate on frequencies outside of the ARS bands, if it has not been issued a grant of equipment authorization for the radio service(s) in which the transmitter is capable of operating.

**CB Amplifiers:** The Federal Communications Commission (FCC) does not permit the use of power amplifiers with Citizens Band radios. Therefore, eBay prohibits any listings of the following:

- CB amplifiers
- Amplifiers specified for use on the 11-Meter band
- Amplifiers designed for use in frequencies 24 MHz to 35 MHz
- Amplifiers posted within the CB category
- CB Radios that are amplified to exceed 4 Watts using the AM Settings or 12 Watts using the SSB settings

Further clarification can be found in the FCC rules C.F.R. Title 47 Section 2.815.

For more information regarding the FCC rules regarding CB Transceivers, please visit: <http://www.rcic.com/reg/fcc/fccpt95.htm#%20F>. That link, coincidentally, is a great place to find the latest Part 95 rules, which by the way, are now referred to as the "Personal Radio Services." I assume they are called that because they now cover not only the Citizen Band Radio Service (CB) and Radio Control Radio Service (R/C) but General Mobile Radio Service (GMRS), Family Radio Service (FRS), Interactive Video and Data Service (IVDS) and Low Power Radio Service (LPRS). My, how we have grown! The list has literally doubled since I first read it back in the 1960s. And this list doesn't even include the new Multiple Use Radio Service (MURS) or Freeband (#@\*!);).

## A Little Confusing?

No wonder we seem to be in a bit of an identity crisis. Hardly a month goes by when I don't get letters asking why I include things like the Freeband, MURS, and SSB in the "CB Scene." The reason is, simply, that I get confused. You see I am, and have been, a citizen who just enjoys the heck outta radio. Back in the old days it was pretty well cut and dry, if

you were a citizen then you used 11 meters. As we have just seen, however, that is no longer the case. Our horizons are expanding and I see little reason not to pursue them. Do you? Don't get me wrong. I am not suggesting we stop calling ourselves "Citizens" and adopt the moniker of "Personals." I'm sorry, that's just a little too gooeey for me! What I am suggesting is that we broaden our concept of what a Citizen radio operator is to include all that we have at our disposal.

Finally, I recently received copies of some E-mails that have been circulating around the radio newsgroups on the Internet. It appears that a number of truckers are finding themselves operating, perhaps unknowingly, on the 10-meter amateur band. Needless to say, their presence there is more than a little disconcerting to the rightful residents. I am fairly sure I got these notes because some might consider these interlopers Freebanders. They are not; at least not as I understand the term. They may be outlaws, they are probably ignorant, but they are not Freebanders. I would like to pass these notes on to you because one is well written and amusing, one asks the right questions and the last has a good answer.

The original note comes from "TooManyRadios" <toomanyradios@aol.com> under the subject of "28.085MHz: Pure Anarchy!" It reads as follows, "Had some time on the road today and Rush became boring . . . so, I turned on the ol' 10-meter mobile. Dialed up 28.085 and heard quite the circus going on. Several truckers on AM, carrying on what sounded to be local conversations with each other. Mixing with their signals were presumed ham operators — attempting to jam the above-mentioned truckers with CW, tone generators, and various sound effects. Also a loud, gruff, southern-drawl voice that kept repeating 'Get the %\$#!@ off this frequency, you scum-suckin', interlopin' CBers. This here's a ham radio frequency. Get the %\$#@! off this frequency!' This chaos went on for several hours this morning and afternoon. Laughed so hard that I almost ran off the Interstate! Haven't enjoyed a circus like this since Big Al Abernethy used to play the 'Pork Butt Song' repeatedly on 3894.5!"

In the next message "Bill Meacham" <NOSPAMexray@coqui.net> asked "Why would truckers WANT to operate AM on 28.085?" To which "Richard McCollum" <rmccoll@radiks.net> replied, "they more than likely don't know where they are. A lot of radios have had

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their PLLs played with so that they have extra 'bands' in 450 kHz increments. Channel 19 'two up' is, guess what, 28.085."

## May And June Mixers

For those of us who still find the act of "randomly contacting" on the air very exciting and alluring, why not make plans to attend the next, regularly scheduled, on-air CB Mixer? They are held, wherever you are, on the last Saturday of the month. The next two will be on the 26<sup>th</sup> of May and the 30<sup>th</sup> of June from 9 p.m. until 10 p.m. local time. SSB operators work channel 36 LSB. AM operators work channel 23.

Well, that is it for now. Thanks for writing me here at the magazine or via the Internet where my address [ed@barnat.com](mailto:ed@barnat.com). And as always, if you can (especially on May 26<sup>th</sup> and June 30<sup>th</sup>) — catch me on the radio! 73

# PRODUCT SPOTLIGHT

Pop\*Comm Reviews Products Of Interest

## Japan Radio's NRD-545



*The front panel says it all — NRD-545 DSP Receiver. The controls are very conveniently laid out and easy to operate, even with my big fingers. It is truly a joy to listen with this excellent piece of equipment.*

are documented in the manual (Way to go JRC!). Software from third party companies is beginning to become available as the NRD-545 becomes more popular with listeners. (Check out Smart NRD from Fineware at [www.fineware-sw1.com](http://www.fineware-sw1.com)).

JRC has released a sample application that will access front panel controls and upload/download memories, but the program is not terribly flexible. It will only work on COM 1 for instance, and the display size on screen is fixed with no scroll bars, etc. If you're trying to use it on a machine with less than 800 x 600 resolution on the screen, half of the controls, including the keypad are inaccessible. No doubt a more complete application will be forthcoming either from JRC or an independent developer. If you think about it for a second, what you most want for computer assisted shortwave receivers is memory management! Punching in 1000 memories and keeping track of them is a big job.

There are 1000 memory channels available, which should keep even the most dedicated memory fanatics happy. Each memory stores all of the operating parameters about the receiver including frequency, of course, mode, IF filter bandwidth, AGC, attenuator settings, and tuning step. Twenty of the memory channels can also store an ON and OFF time for unattended recording.

### 545 Operation

The operation of the receiver is accomplished with JRC's usual excellent flare for ergonomics. The controls are well placed, and often-used functions are easily accessible. The large tuning dial in the center of the faceplate is very comfortable, and offers a torque control for adjustment of the tension required to tune. The 545's LED display and large

A new shortwave receiver always generates a lot of excitement amongst enthusiasts, and one from Japan Radio is almost certain to generate a furor. The NRD-545 was certainly no exception, and once listeners began to realize that the 545 was also a DSP receiver, excitement grew.

DSP or Digital Signal Processing refers to what essentially are computer-based "digital" techniques for processing and enhancing the received signal, as opposed to the standard "analog" systems that are used in a more traditional receiver (including the earlier NRD-535). DSP systems are well known for audio processing and assisting in removal of unwanted heterodynes (whistle or tone-type noises).

Many aftermarket DSP units are available to take the audio from any receiver and process it using DSP technology. However these units don't get the signal to even process until *after* going through all the radio's audio stages, complete with noise and other artifacts of superheterodyne reception. Many of the receivers on the market that include DSP as an optional accessory work this way, also.

The NRD-545 takes the signal digital after the IF stages, similar in operation to the Watkins Johnson HF-1000. By putting DSP processing earlier in the system, we can get much more control of the

incoming signal, and feed the audio stages with a much cleaner, filtered signal. This can lead to greatly improved reception of weak signals or stations with interference from nearby stations. The NRD-545 also uses digital IF filtering techniques to generate a nearly endless selection of bandwidths to help in this process. Any bandwidth desired can be set for default in the easily-accessed Narrow, Intermediate, and Wide positions, but it's just as easy to override those settings with the bandwidth control which is continuously variable.

In addition, there is a range of controls designed to extract the signal from other noises around. The digital notch filter, for instance, can not only eliminate a steady noise or heterodyne that might be on the frequency you're trying to listen to, but in automatic mode, it will follow a wandering interference for quite some distance. This is truly amazing to see in operation. There is also a noise blanker with narrow and wide modes of operation, and an overall noise reduction system, all of which are accomplished digitally.

On the surface, the NRD-545 is like many other high-end HF receivers. The standard receiver covers 100 kHz to 30 MHz continuously. There is an optional converter to extend this range, which we'll discuss momentarily. A full computer interface is available, and the commands

BY KEN REISS <Armadillo1@aol.com>



Lots of connections are available on the back panel. Note the N type connector at the upper right for the wide-band converter option. HF antennas are connected at the lower right either with a PL-259 coaxial connector, or wires. I also thought it was interesting that JRC uses a DB-25 connector for the serial port instead of the more common DB-9. You'll need a null modem adapter or cable to connect to the computer correctly.

LED generated S-Meter offer a myriad of information at a glance, and numerous LEDs in other locations on the front panel indicate which receiver functions are activated at any time. It's truly a joy to operate this receiver.

There were early reports of digital artifacts and other problems associated with the DSP circuitry. I did not experience them, and believe that JRC has gotten it right on the production version of this receiver. As a side note, there are a number of parameters about the DSP and receiver operation that are user adjustable through a setup menu. Many users on the Internet have reported that by working with these settings they were able to peak the performance of the receiver, or to remove unwanted effects of the DSP. I didn't find this necessary, but I am convinced that if you don't like how this receiver operates, you probably haven't gotten some setting right yet.

The NRD-545 also has available as an option, a VHF/UHF frequency converter. In theory, this would be the best of both worlds — a high-quality shortwave receiver and all that processing power applied to VHF/UHF frequencies. Combine that with lots of memories and other features, and the NRD-545 sounds very promising as the ultimate wide-band receiver. Alas, while the 545 makes a fantastic HF receiver, the wide band option doesn't quite deliver on this promise.

### Two Minor Shortcomings

There are really two shortcomings, although one of those may be fairly minor. The wide band converter does not offer SSB modes on VHF/UHF. Granted, not many communications take place in these modes, but there are some. This might not

prove a problem depending on your listening habits.

The other shortcoming might prove a bit more severe. The wide band module is subject to overload. I do not have test equipment available to make hard measurements in many places. I have some fairly strong transmitters close to my location, so you might not find the problem as severe. Once I reduced the amount of signal being received (by using a smaller, less efficient antenna), the converter became useful for local signals, and I found it quite convenient. However, if scanning is your primary focus, there are other wide band receivers in this price range that will perform better on VHF/UHF. But if HF is your primary focus, you may

want to consider this option, or you may want to consider a 545 for HF and a dedicated scanner for your VHF/UHF needs. That might, in the end, be the ultimate combination.

### The Bottom Line

So how does the 545 stack up? Extremely well as an HF receiver. The NRD-545 is definitely high on my wish list. It's a very capable and comfortable receiver to operate with many excellent features for noise and interference reduction. While I did not focus on broadcast listening, the stations that I did tune in were very comfortable to listen to. If you're looking for a top-of-the-line HF receiver, you owe it to yourself to check this one out!

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# SCAN TECH

Trunking, Tips, Techniques, And Mods

## Frequency Allocations And Searching

Charlie Atkins of Honolulu, HI, wrote "Some time back you had a chart of frequencies and how they were used. Any chance of getting a copy of that?"

Boy, did I have to do some digging to find the chart, but it was all the way back in 1998! And it needs a few updates, so let's run it again next month and see what's new. Incidentally, I don't have reprints of back articles available, but *Pop'Comm* headquarters does have back issues available for \$4 each, postpaid. You can contact them directly at 516-681-2922 or 800-853-9797 during EST business hours.

The main reason to have such a chart is to help you know where to look when you're searching for new frequencies. You can spend a lot of time checking channels with nothing on them, and there never will be anything on them, if you just let the scanner search on its own. Let's take a look at how this happens and what we can do about it.

Searching for new frequencies has always been a chore. Not only is it time consuming, but figuring out what's new versus what you already know about is always such fun. On top of that, there's the feeling (or reality) that you're missing something good on the frequencies that you normally listen to while you're wasting time searching.

Adding to the aversion, the search function on most scanners is a bit inconvenient to use, and it is, to say the least, time consuming. Days or weeks can go by with little or no return. But when you do find new frequencies, or identify a new user, it makes it all worthwhile. Some new tools have become available to us in recent years to help this process, and even to make your scanner do things that you never thought of.

The most significant improvement in the searching process has been the power of the computer combined with controllable scanners, and the software that drives them. With software, it is not only possible to search large amounts of spectrum, over time of course, but also to turn your non-productive scanning time into



*You'd better know what frequency these guys are on before they roll up to the big one.*

a useful and worthwhile part of your hobby activities.

Even without a computer-control system, there are many things you can do to enhance your scanning and searching time, and to convert downtime into useful activities. The advent of the voice-activated tape recorder has made a lot of

monitoring activities possible that simply weren't viable before. By use of a voice-activated recorder, and if you have the equipment, a computer-control system, you can turn time away from the shack into productive activity.

It is also worth noting that this is not recommended for beginners. If you're



*Rescue helicopters often operate on many frequencies during a single flight. You frequently get more information about where they're going from aviation comms than from the fire or on-scene communications. Don't forget the dispatch channels!*

BY KEN REISS <armadillo1@aol.com>



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MHz, 216,000-512,000 MHz, 806,000-823,995 MHz, 849,012.5-

868,995 MHz, 894,012.5-956,000 MHz.

The Bearcat 895XLT is superb for intercepting trunked communications transmissions with features like TurboScan™ to search VHF channels at 100 steps per second. This base and mobile scanner is also ideal for intelligence professionals because it has a Signal Strength Meter, RS232C Port to allow computer-control of your scanner via optional hardware and 30 trunking channel indicator annunciators to show you real-time trunking activity for an entire trunking system. Other features include Auto Store - Automatically stores all active frequencies within the specified bank(s). Auto Recording - Lets you record channel activity from the scanner onto a tape recorder. CTCSS Tone Board (Continuous Tone Control Squelch System) allows the squelch to be broken during scanning only when a correct CTCSS tone is received. For maximum scanning enjoyment, order the following optional accessories: PS001 Cigarette lighter power cord for temporary operation from your vehicle's cigarette lighter \$14.95; PS002 DC power cord - enables permanent operation from your vehicle's fuse box \$14.95, MB001 Mobile mounting bracket \$14.95; EX711 External speaker with mounting bracket & 10 feet of cable with plug attached \$19.95. The BC895XLT comes with AC adapter, telescopic antenna, owner's manual and one year limited Uniden warranty. Not compatible with AGEIS, ASTRO, EDACS, ESAS or LTR systems.



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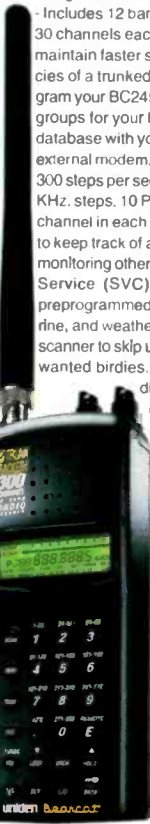
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(Full coverage receivers available for export and FCC approved users.)

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just getting started with scanning, you're much better off with traditional frequency lists and other information. As you begin to learn the details of departments that you are monitoring, you'll also find new frequencies and services to plug into your scanner. Once you're familiar with these tools, you'll begin to understand the layout of the bands you'll be searching in. You can begin searching for unknowns with confidence and be able to correctly identify the intercepted signal; whether it's really a new frequency for you, or just one you had forgotten about.

## Searching For Unknowns

It is normally a simple matter to hook up the tape recorder to your scanner, but if you're not familiar with the procedure, join us in June. You can also use any of several freeware/shareware/commercial

programs for your computer to turn it into a very functional recorder. My favorite for scanner use is Scanner Recorder, a freeware utility built just for scanner and radio recording. You can check it out yourself at [www.davee.com/scanrec/index.html](http://www.davee.com/scanrec/index.html). Another popular one is RecAll Pro, which is shareware, but also offers some nice features. It's at [www.sagebrush.com/recpro.htm](http://www.sagebrush.com/recpro.htm).

Adding a tape recorder to your shack will allow unattended searching. The amount of tape that is used will give you a feel for how much activity is found, even before you listen to it. By playing back the tape, you can at least get a good feeling for the activity in the range you searched, and decide if it's worth your time to pursue the active frequencies any further. If you're searching in a frequency area where you know some channels, you may be able to identify some of the

traffic already based on how they sound. After that, you can pick specific frequencies that you think might be worth following up on.

Perhaps you've heard through the rumor mill that a certain agency uses a specific channel. Great use for the recorder while you're at work, out running errands, or anywhere besides in your shack. Put the scanner on that frequency (or talkgroup with the new trunktrackers) and set the recorder. You can verify a lot of information in a week just by spending the day on one frequency at a time!

Some scanners (mostly the newer model Uniden base units) feature an "AUX" feature to assist in recording specific channels. This can be very beneficial if you think you've pegged a few frequencies that you want to follow. Just set up the recorder to tape only those specific channels and let it run. You'd be surprised at how quickly you can begin to match frequencies with that activity after you return to the shack after listening to the tape. I frequently carry tapes with me in the car to listen to while I'm driving from appointment to appointment, or sitting in rush hour. It's a lot more fun to listen to that stuff than most talk radio programs I've sampled lately.

If you are fortunate enough to have a computer-controlled system, you can really make maximum use of your scanning setup while you're away. Almost any computer-controlled scanner can perform a search and keep track of the hits that occur on each channel. In addition, you can keep a log of the frequencies that the scanner found active, and the sequence/time and date of the activity. By playing back the tape and following along in the log, it's usually easy to figure out an active frequency. Then you can set it up for more detailed monitoring if you're interested. Also, there are a few recorders that feature a time and date stamp on the audio-tape. That would make following the log very simple (assuming of course that the clock of the recorder and the computer were synchronized).

The number of computer-based recording programs appearing on the market continues to grow, and many of them are getting quite sophisticated. Most simply use the sound card to record just like a voice-activated recorder, and those make a great substitute for the recorder if you don't need to take the tape with you for portability. Or you can convert the files to MP3 format or something that is more portable if you prefer. ScanStar Deluxe and ScanCat SE not only record the audio,

## Pop'Comm May 2001 Survey

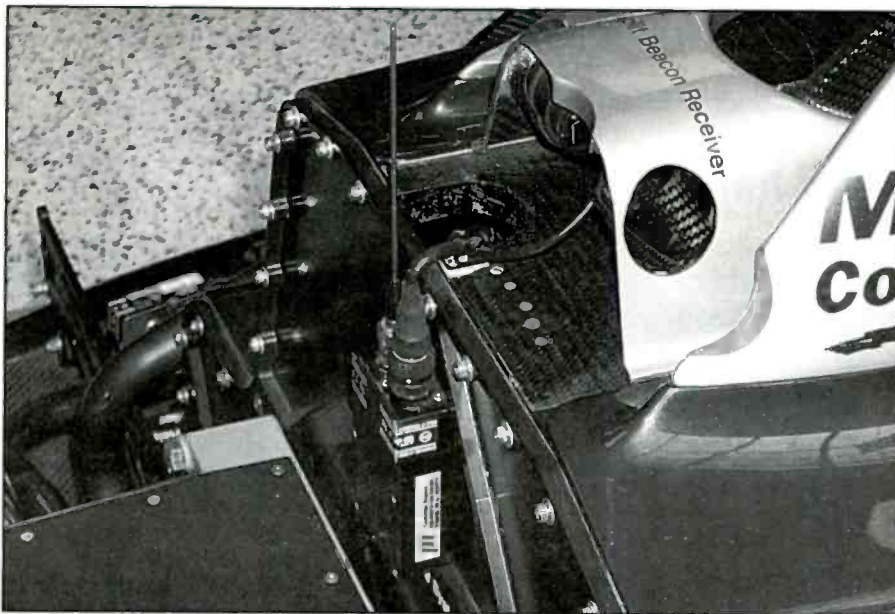
Circle Reader  
Service #

### 1. I'm an active amateur radio operator who credits my getting licensed to: (Mark all that are appropriate):

A radio enthusiast friend who got me interested in radio	1
My early years as a CBer	2
My parents, one or both are or were hams	3
Another ham	4
Popular Communications	5
CQ Amateur Radio	6
QST	7
73	8
Other radio publication or club bulletin	9
First-hand experience with hams during a disaster	10

### 2. In addition to my radio equipment, I also own and regularly use the following (mark all that are appropriate):

Cellular phone	11
Cordless phone	12
Basic pager	13
Pager with E-mail and other wireless capabilities	14
Wireless Internet device	15
GMRS	16
Web TV	17
Home TV satellite system	18
Surround-sound and DVD system	19
Handheld digital voice recorder	20
Satellite phone	21
NOAA weather radio	22
GPS unit	23
Digital camera	24
Standard 35mm camera	25
Polaroid	26
Telescope (valued at +\$300)	27



*This antenna is labeled as a beacon receiver at the top of the body, but there are transmitters in this Indy car, too. What frequency should you monitor?*

but keep a log of the frequency that was active at the time. This makes it very easy to tell what happened and when. The only problem is making sure you don't run out of hard disk space while recording, as this can take a lot of room if you choose to record everything. Several of the new computer-control applications have this feature, although I have not experimented with many of them. So many programs — so little time . . . sigh . . . Next month we'll feature Part II of our special Frequency Allocations And Searching "ScanTech." And we'll include a special section on trunked systems, so stay tuned!

## Frequency Of The Month

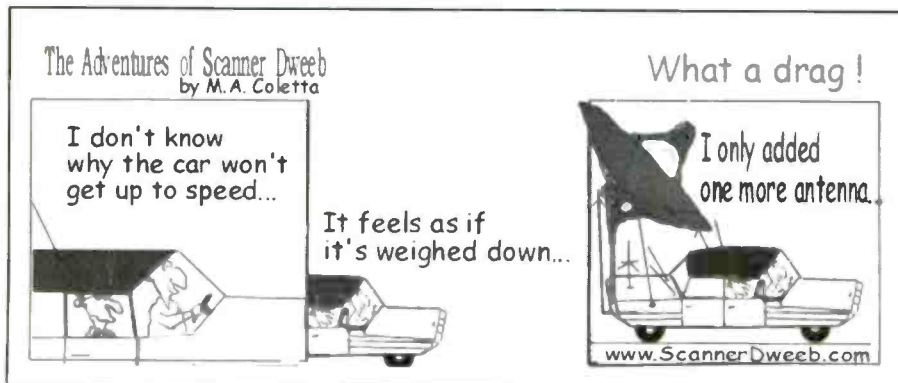
Part of our frequency of the month idea is to get you looking at frequencies you might not otherwise listen to. Of course, you don't have to wait for the channel to come up as a frequency of the month, but

it does make it much more fun to have a reason. Our frequency this month is **151.940**. This frequency has been in the news lately, so let's see what's on it.

Actually, this was supposed to be the frequency from February, but some grenlin got in the way and we ran 152.485 in February. Mostly paging on 152.480 is what you heard, and several of you correctly pointed out that 152.485 is not a legal frequency. Oops.

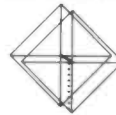
## Your Input Needed

I'm always looking for your input. Got any search results to let us in on? I'm also working on an article on battery use for scanners. If you have a favorite brand or technique that you'd like to recommend to fellow readers, let me know. You can send info to: Ken Reiss, 9051 Watson Rd, #309, St. Louis, MO 63126, or via E-mail at [armadillo1@aol.com](mailto:armadillo1@aol.com). ■

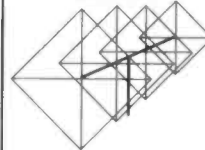


## SE SIGNAL ENGINEERING'S High Performance CB & 10 Meter Antennas

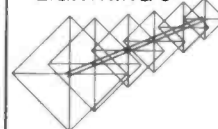
### SUPERHAWK



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# RADIO RESOURCES

Interesting Thoughts And Ideas For Enjoying The Hobby

## Globalstar Turns On Internet Access

**G**lobalstar continues to offer improvements, refinements, and new services for those users carrying that portable Globalstar satellite handset exclusively manufactured by Qualcomm, featuring analog or digital CDMA cellular capabilities, as well as 1600 MHz/2500 MHz CDMA voice satellite calls. And now there's Data Internet Access!

But before I announce my successful e-mailing tests with my laptop and tri-mode handset, let's bring you up-to-date on what Globalstar has been doing over the last 16 months.

### Improvements And Refinements

If you sail or RV in Alaska, Globalstar has recently improved their High-River Alberta ground station to better serve those icy waters for the commercial fishermen and local sailors. I tested this system personally last September from Seward, Alaska, all the way up inland to Fairbanks and north to the Arctic Circle, and almost every time on my first try I was able to access one of the low-earth-orbit satellites that had a mutual view of the High-River Alberta, Canada, ground station. Keep in mind that the way the Globalstar system works is using low-earth-orbit satellites as space repeaters that must have a mutual view of a ground station for the connection to take place. Sometimes two or three satellites have a mutual view, mixing and matching your flea-powered microwave signals to minimize dropouts if you should be yakking and bend down to tie your shoelaces.

A ground station in Smith Falls, Ontario, serves sailors and travelers on the Great Lakes and northeast coast. These two stations give the Canadian signal uninterrupted coverage where few cellular systems exist.

Sailors and RVers have uninterrupted "lower 48" coverage throughout the country, and several hundred miles out to sea. Low-earth-orbit Globalstar satellites relay your signal to the granddaddy of all



*Sending E-mail to schools about finding historic petroglyphs in Nevada.*

earth gateway stations — Clifton, Texas. The Clifton station may sometimes see as many as four or five satellites that are tuned into your call up to a couple hundred miles out to sea.

When cruising the West Coast south into Mexico, the Clifton, Texas, station will hand you off to the powerful San Martin, Texmelucan, gateway for crystal-clear, south-of-the-border calls all the way down through Panama. I have personally tried this system in Baja, and it works just like all of the other stations except for the necessity to dial "011" for those calls back home. A slightly higher per-minute rate applies when gateway stations through Doppler shift calculations read your position as south of the U.S. All calls in the lower 48, plus Alaska making the 49th state, and Canada are with no landline charges!

### A New Station

Last November Globalstar turned on a new satellite ground station gateway in Cabo Rojo, Puerto Rico, specifically to

service the Caribbean region. "Best of all, Caribbean region phone calls can be made without incurring international roaming charges," comments Andy Radlow of Globalstar USA. "The Caribbean region previously received roaming coverage through beam over-reach from the Globalstar gateway in Los Velasquez, Venezuela. . . ." adds Radlow, giving Caribbean vacationers and sailors "home" status at the lowest per-minute rates through the brand new Puerto Rican station. And this station now can handle data, too!

"Globalstar services in the Caribbean may simplify voice and data calls back to any home phone or internet service provider, and work everywhere in the islands except for Cuba," comments Globalstar's Manager of Data Products, Daniel Meredith, ham radio call sign N7MRP. Daniel is technical, so I asked the question again about how low-earth-orbit satellites could determine whether or not a handset is in the U.S. or roaming in Mexico, or too close to Castro. He states that sophisticated Doppler shift calcula-

BY GORDON WEST, WB6NOA

tions by one or more orbiting satellites may locate a handset within the radius of a couple of miles. Not precise like GPS down to a few feet, but over a couple of miles to meet international roaming agreements to over 24 gateway systems throughout the world. I was told that Cuba presently has an electronic Polygon that would filter out any signal within 20 miles of its coastline. But out on the open sea or in most of the other Caribbean islands, your call back to the U.S. will not incur international roaming charges.

## Now Internet Access

I tried it personally through the satellite and it works — Globalstar Internet access from my little GSP-1600 tri-mode phone and my lap-top running Windows 98. I didn't need to change my E-mail address or software applications. All I needed was the new Globalstar data cable, computer connector, and the CD-ROM with the data kit which walked me through minor configuration settings that would allow the computer to recognize the Qualcomm Globalstar phone. One earlier Globalstar phone didn't register, but the second one (which I was supposed to use in the first place) had software Version 4.7.1.0.3, and immediately recognized its new role in life to be a data sender as well as my ultra-range satellite and cellular handset.

Since there is no additional landline charges anywhere in the U.S., including Alaska and up to a couple hundred miles out to sea, and Canada, the new station in the Caribbean, I simply pre-set the phone to dial up my local AOL Internet provider.

My computer now treats my GSP-1600 tri-mode phone as its familiar external modem connection, so I just place the phone on its tail and let the phone recognize that I am well outside of normal cellular service, and presto, seconds later, I am on the satellites. If I were within local cellular range, my particular cellular carrier could pass my digital call into the Internet, too.

My first test was to see whether or not my relatively RF-noisy laptop would interfere with Globalstar satellite signals up on the microwave bands. No problem, thanks to Code Division Multiple Access (CDMA) technology from Qualcomm, I was transferring packetized data at 9600 baud. This is considerably faster than some of the maritime satellites I have used in the past. There was no additional "data rate" for this service; I'm billed at the same rate per minute as voice service.



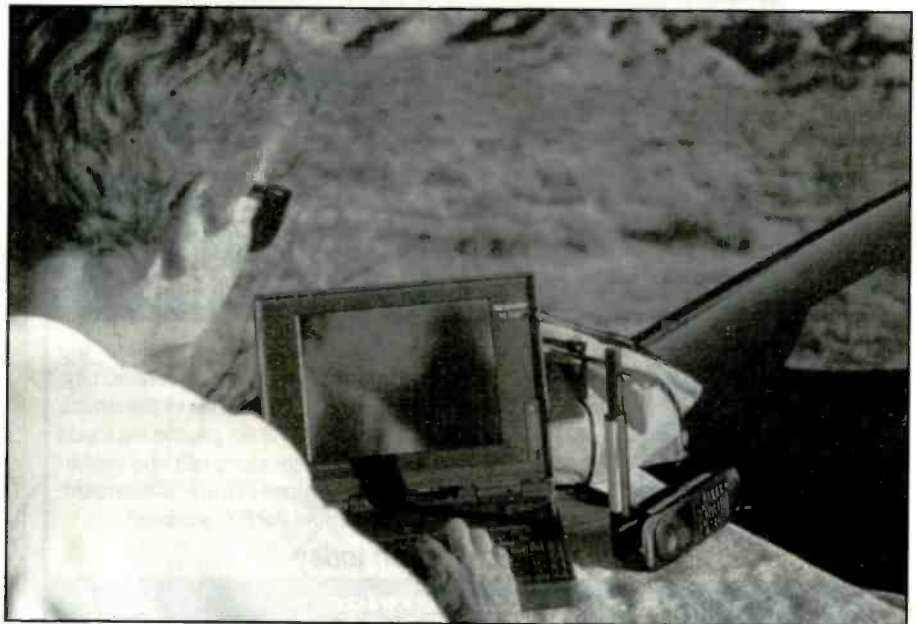
*Photos such as this were sent as an attachment in JPEG format with perfect clarity.*

No primary password required, and all I needed to get into the data mode was dialing #777. The interval to get linked up to the packet switch with this equipment was only four to six seconds, light years ahead of other signaling equipment that sometimes can take up to 45 seconds (on the clock) to establish the link.

"Globalstar USA does not collect any personal information or data from the use of this service," I was assured by Globalstar's VP and General Manager, Dennis McSweeney. "The Globalstar

phone acts as a modem when attached to the laptop computer or personal digital assistant (PDA), enabling remote access to applications such as most consumer E-mail, Webpages, search engines, and instant messaging," adds McSweeney.

All I had to do was to bring up the DIAL UP NETWORK, select and right click on GS PACKET DATA, and then, from the pop-up menu, select CONNECT. Or it says I could have simply double clicked on GS PACKET DATA, and I'm on the air.



*Globalstar phone within inches of computer accesses the satellites without a problem in a Nevada desert valley.*

A few days later I tried it on a conventional Verizon cellular connection, and all went well. While I didn't have a stopwatch, I really think going through the satellite was a bit faster!

So what is all of this going to cost you? If you are north of the Mexican border, all the way up to the Arctic Circle, your charge is anywhere from a buck a minute to \$1.69 a minute with no additional long-distance charges.

### South Of The Border

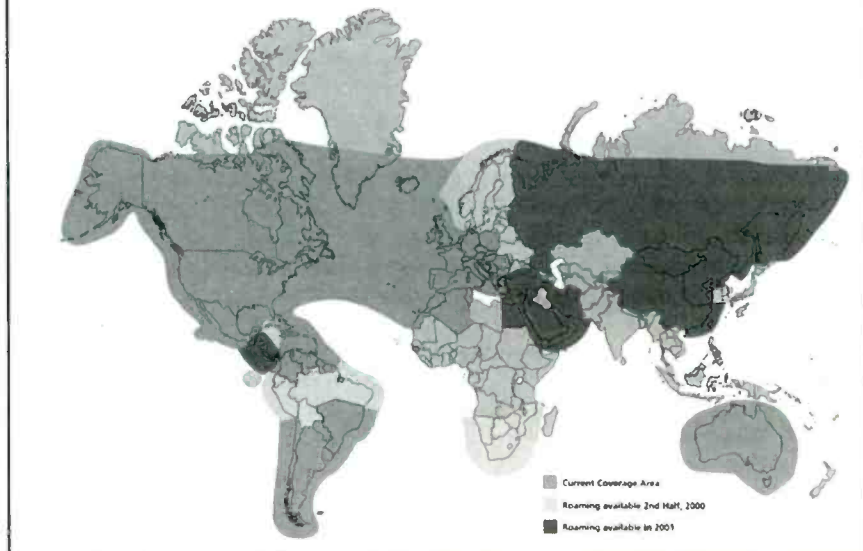
West Coast sailors, or Baja RVers, heading south of the border cross into an interesting political satellite circuit that revolves around the Clifton, Texas, ground station and Mexico's San Martin, Texmelucan, earth station that may or may not get a piece of your wireless voice or data business.

First of all, you pay a little bit more per minute for roaming in Mexico and roaming in Canada. You pay about \$1.99 roaming charge, based on where you are, not necessarily based on where the gateway earth station is located.

When you head south of the border for Baja cruising or Mexico RVing, your Globalstar signals are still picked up by the Clifton, Texas, gateway which then sends the signal down into Mexico where you are roaming, and then back again for your voice connection. I am told by Globalstar that this is a necessary cross-border movement for all voice calls, and indeed it ends up with a higher per-minute rate on top of roaming.

But for the new data service, I am told that your Mexico signal will be processed exclusively by the Clifton, Texas, station with no extra round-trip down to Mexico

## Global Satellite Roaming for U.S. Customers



and back required. More than likely, the Mexico station has not yet incorporated the data service and doesn't get in on the action at this time. This means your data rate will be approximately \$1.99 a minute because you are roaming in Mexico, but no additional land line charges on top of that. Just like Canada.

My question is how far south does the Clifton, Texas, station cover? I also asked whether or not there was a "Polygon" for international coverage offshore Baja California for "home" rates. It appears I must have hit a politically sensitive electron here because they could not say how far south you could get with digital Clifton, Texas, base station coverage, and they said that any waters local or out to sea from Mexico's 32-degree border

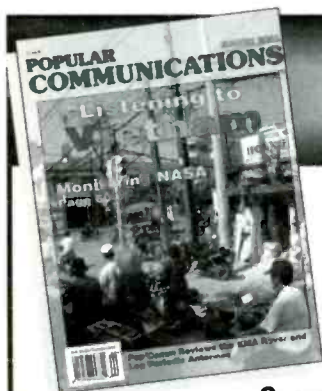
would indeed be considered roaming.

These political roaming and home boundaries may seem confusing at first, but they are the necessary requirements for each country to make the most out of the satellite links. Globalstar suggests looking on their Website to better visualize home areas, roam areas, and calls that may result in long-distance charges. Go to [www.globalstarusa.com](http://www.globalstarusa.com).

When Texmelucan gets digital Internet capabilities, will we see a different path in how your data packets get into the Internet? These are some of the uncertainties that accompany any new telecommunications system going into space and the oceans where no other system has gone before. Keep in mind that Iridium, now taken over as valued satellites by the Department of Defense operated as multiple relay stations in space. With Globalstar, the low-earth-orbit system gives you a more direct connection to ground stations with best signal reception, but not necessarily ground stations in a geographic area that gives you home, not roam.

In fact, talking with one Globalstar technical type in the San Francisco Bay area, I was told it was a home call, yet the signal was more than likely going through an Alberta, Canada, ground station. No extra charge, and no landline charge!

But one thing is for sure — I have tested the new data service all over the Southwest including south of the border, and it works as advertised! Keep Globalstar in mind for all it is doing to keep you connected. ■



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

**MFJ Antenna Matcher**

MFJ-959B **\$99<sup>95</sup>**

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

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

**Dual Tunable Audio Filter**

MFJ-752C **\$99<sup>95</sup>**

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

**High-Gain Preselector**

MFJ-1045C **\$99<sup>95</sup>**

High-gain, high-Q receiver pre-selector covers 1.8-54 MHz. Boost weak signals 10 times with low noise dual gate MOSFET. Reject out-of-band signals and images with high-Q tuned circuits. Push buttons let you select 2 antennas and 2 receivers. Dual coax and phono connectors. Use 9-18 VDC or 110 VAC with MFJ-1312, \$14.95.

## CW, RTTY, ASCII Interface

MFJ-1214PC **\$149<sup>95</sup>**

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

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

**High-Q Passive Preselector**

MFJ-956 **\$49<sup>95</sup>**

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

**Super Passive Preselector**

MFJ-1046 **\$99<sup>95</sup>**

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

**Easy-Up Antennas**

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

MFJ-38 **\$16<sup>95</sup>**

## MFJ Antenna Switches

MFJ-1704 **\$64<sup>95</sup>** MFJ-1702C **\$24<sup>95</sup>**

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

**World Band Radio Kit**

Build this regenerative shortwave receiver kit and listen to signals from all over the world with just a 10 foot wire antenna. Has RF stage, vernier reduction drive, smooth regeneration, five bands.

**21 Band World Receiver**

MFJ-8100K **\$69<sup>95</sup>** kit MFJ-8100W **\$89<sup>95</sup>** wired

MFJ's new 21 Band World Receiver

lets you travel the world from your armchair! Listen to BBC news from London, live music from Paris, soccer matches from Germany and more! Covers 21 bands including FM, Medium Wave, Long Wave and Shortwave.

*Sony®* integrated circuit from Japan, multicolored tuning dial, built-in telescopic antenna, permanent silkscreened world time zone, frequency charts on back panel. Carrying handle. Operates on four "AA"s. Super compact size!

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# Pop'Comm's World Band Tuning Tips

*May 2001*

This listing is designed to help you hear more shortwave broadcasting stations. The list includes a variety of stations, including international broadcasters beaming programs to North America, others to other parts of the world, as well as local and regional shortwave stations. Many of the transmissions listed here are not in English. Your ability to receive these stations will depend on time of day, time of year, your geographic location, highly variable propagation conditions, and the receiving equipment used.

AA, FF, SS, GG, etc. are abbreviations for languages (Arabic, French, Spanish, German). Times given are in UTC, which is five hours ahead of EST, i.e. 0000 UTC equals 7 p.m. EST, 6 p.m. CST, 4 p.m. PST.

UTC	Freq.	Station/Country	Notes	UTC	Freq.	Station/Country	Notes
0000	4052	Radio Verdad, Guatemala	SS	0230	10320	AFRTS, Iceland	USB
0000	15480	CPBS/China National Radio	CC	0250	7255	Radio Botswana	
0000	15120	China Radio Int'l, via Cuba	SS	0300	9605	Vatican Radio	
0000	9705	Radio Mexico Int'l		0300	7185	RTV Marocaine, Morocco	AA
0000	17675	Radio New Zealand Int'l		0300	4940	Radio Amazonas, Venezuela	SS
0000	6000	Radio Havana Cuba		0300	9400	Radio Bulgaria	
0000	11710	Radio Pyongyang, North Korea		0300	9445	Voice of Turkey	
0000	4925	Radio Difusora Tabate, Brazil	PP	0300	9495	Radio Sweden	SS
0000	9022	Voice of Islamic Republic of Iran	FF	0300	17825	Radio Japan/NHK	
0030	4801	Radio Oriental, Ecuador	SS	0300	9525	Channel Africa, South Africa	
0030	11710	Voice of Islamic Republic of Iran	AA	0300	6973	Galei Zahal, Israel	HH
0030	9875	Radio Vilnius, Lithuania		0300	5055	Faro del Caribe, Costa Rica	SS/EE
0030	9580	YLE/Radio Finland	Finnish	0300	6005	BBC, via Ascension Island	
0030	13695	Radio Thailand		0300	4884	Ondas del Meta, Colombia	SS
0030	11770	UAE Radio, Dubai	AA	0300	4819	La Voz Evangelica, Honduras	SS
0030	7400	Radio Bulgaria		0300	5010	Escuelas Radiofonicas, Ecuador	SS
0030	9770	Sri Lanka Broadcasting Corp.		0330	4960	Radio Villa, Dominican Republic	SS
0050	11800	RAI Int'l, Italy		0330	9835	Radio Budapest, Hungary	
0100	6957	La Voz del Campesino, Peru	SS	0330	3360	La Voz de Nahuala, Guatemala	SS
0100	9965	Voice of Russia		0330	7345	Radio Prague, Czech Republic	Czech
0100	6458.5	AFRTS, Puerto Rico	USB	0330	4976	Radio Uganda	
0100	9570	Radio Havana Cuba		0330	11765	BBC, via South Africa	
0100	11585	Kol Israel	HH	0330	9965	Voice of Armenia	Armenian
0100	3280	La Voz del Napo, Ecuador	SS	0330	7270	Radio Tirana, Albania	
0100	6536	Radiodifusora Huancabamba, Peru	SS	0330	9860	Radio Netherlands, via Madagascar	DD
0100	11675	Radio Kuwait	AA	0345	11885	Far East Broadcasting Assn., Seychelles Is.	
0130	9735	Radio Nacional, Paraguay	SS	0345	7545	Kol Israel	
0130	11930	Radio Jordan	AA	0400	7210	Qatar Broadcasting Service	AA
0130	12035	YLE/Radio Finland		0400	10940.5	AFRTS, Sicily	USB
0200	5025	Radio Rebelde, Cuba	SS	0400	7125	Voice of Russia, via Moldova	
0200	11990	Radio Canada Int'l		0400	5500	Voice of the Tigray Revolution, Eritrea	vern
0200	11785v	Radio Baghdad, Iraq	AA	0400	4899	Radio Barahona, Dominican Republic	SS
0230	4890	Radio Chota, Peru	SS	0400	6940	Radio Fana, Ethiopia	unid
0230	15575	Radio Korea Int'l, S. Korea		0400	3250	Radio Luz y Vida, Honduras	EE/SS
0230	111710	Radiodifusora Argentina al Exterior		0400	7300	Voice of Turkey	TT
0230	10330	All India Radio	unid	0400	9635	Radio Nacional, Colombia	SS
0230	4905	Radio Anhanguera, Brazil	PP	0400	4980	Ecos del Torbes, Venezuela	SS
0230	15355	Radio Sultanate of Oman	AA	0400	9385	Radio Ukraine Int'l	
0230	11830	Radio Romania Int'l		0400	7110	RTV Tunisienne, Tunisia	AA



UTC	Freq.	Station/Country	Notes	UTC	Freq.	Station/Country	Notes
0430	9945	Radio Denmark, via Norway	DD	1330	15400	YLE/Radio Finland	
0430	11985	Radio Vlaanderen Int'l. Belgium, via Bonaire		1400	9580	Radio Australia	
0430	13665	Voice of Russia		1400	17620	Radio France Int'l	
0500	9780	Republic of Yemen Radio	AA	1430	12045	Voice of Russia	unid
0500	6250	Radio Nacional, Equatorial Guinea	SS	1430	15185	Swiss Radio Int'l	
0500	7185	South African Broadcasting Corp.	Afrikaans	1430	17680	Radio Jordan	
0500	5025	Radio Parakou, Benin	FF	1430	13780	Deutsche Welle, Germany	GG
0500	9775	VOA, Botswana		1500	21550	Voz Cristiana, Chile	SS
0500	6055	Radio Exterior de Espana	SS	1600	13675	UAE Radio, Dubai	
0500	5047	Radio Lome, Togo	FF	1600	15105	Good News Radio, via Germany	
0500	7255	Voice of Nigeria		1600	11995	Radio France Int'l	
0500	9855	Radio Cairo, Egypt	AA	1600	11570	Radio Pakistan	
0600	3210	Radio Exterior de Espana, via Costa Rica	SS	1630	15350	Voice of Turkey	TT
0600	3316	Sierra Leone Broadcasting Service		1630	17865	Radio Austria Int'l	
0600	15215	Channel Africa, South Africa		1630	15435	Broadcasting Svc. of Kingdom of Saudi Arabia	AA
0600	4760	ELWA, Liberia		1630	15160	Radio Algiers Int'l, Algeria	
0600	9420	Voice of Greece	GG/EE	1630	9645	VOA, via Sri Lanka	
0600	4915	Radio Ghana		1630	15475	Africa Number One, Gabon	FF
0600	12060	Radio Rossii, Russia	RR	1700	17870	Channel Africa, South Africa	
0600	11675	RDP, Portugal	PP	1830	13640	Radio Telefis Eireann, Ireland, via Canada	
0630	9875	BBC, via Cyprus		1900	11734	Radio Tanzania, Zanzibar	Swahili
0700	15240	Radio Australia		1900	17660	HCJB, Ecuador	
0700	11690	Voz Cristiana, Chile	SS	1900	11990	Radio Kuwait	
0700	3300	TGNA/Radio Cultural, Guatemala	SS	1900	11775	VOA, via Sri Lanka	
0700	4845	Radio Mauritanie, Mauritania	AA	1900	15250	RAI Int'l, Italy	II
0700	11985	Deutsche Welle, via Antigua	GG	1900	15705	Radio Norway Int'l	NN
0800	6185	Radio Educacion, Mexico	SS	1900	13710	All India Radio	
0800	9970	RTBF Int'l, Belgium	FF	1900	15190	Radio Pilipinas, Philippines	FF
0800	9830	Croatian Radio	Croatian	1930	9525	Trans World Radio, Swaziland	FF
0800	9710	Radio Australia		1930	9655	Radio Austria Int'l	GG
0800	6070	CFRX, relay CFRB, Canada		1930	9760	RAI Int'l, Italy	
0800	9870	Trans World Radio, Monaco		1930	11620	All India Radio	
0800	9570	Radio Korea Int'l, S. Korea		2000	15210	Radio Cairo, Egypt	
0830	6055	Radio Tampa, Japan	JJ	2000	12015	Adventist World Radio, via South Africa	
0900	3310	Radio Mosoj Chaski, Bolivia	SS	2000	17510	KWHR, Hawaii	
0900	4919	Radio Quito, Ecuador	SS	2000	12005	RTV Tunisienne, Tunisia	AA
0930	6135	Radio Santa Cruz, Bolivia	SS	2000	15110	Radio Exterior de Espana	SS
1000	4960	Radio Vanuatu		2015	11625	Vatican Radio	
1100	4725	Radio Myanmar, Burma	BB	2030	15345	RT Marocaine, Morocco	AA
1100	4770	Radio Centinela del Sur, Ecuador	SS	2030	17725	Radio Jamahiriya/V. of Africa, Libya	AA/EE
1100	3385	Radio Milne Bay, Papua New Guinea		2100	11640	World Beacon, South Africa	
1100	11590	Kazak Radio, Kazakhstan	vern	2100	17835	Deutsche Welle, via Rwanda	
1115	15075	All India Radio	Tamil	2100	17705	Voice of Greece, via USA	GG
1130	12085	Voice of Mongolia		2200	15105	Deutsche Welle, Germany, via Rwanda	
1200	4525	Nei Menggu PBS, China	CC	2200	21740	Radio Australia	
1200	9610	Radio Taipei Int'l		2200	9900	Radio Cairo, Egypt	
1200	4890	NBC, Papua New Guinea		2200	15195	KTWR/Trans World Radio, Guam	unid
1230	12085	Radio Damascus, Syria	AA	2200	9625	CBC Northern Service	
1230	7185	Bangladesh Betar		2230	9540	Radio Tirana, Albania	
1230	12020	Voice of Vietnam		2230	11770	Radio Mexico Int'l	SS/EE
1230	9810	Radio Thailand		2300	11820	Radio Veritas Asia, Philippines	
1230	5895	IBRA Radio, via Russia	CC	2330	11660	Swiss Radio Int'l, via Fr. Guiana	
1230	4845	Radio Malaysia	unid	2330	15140	Deutsche Welle, Germany	
1300	7330	BBC, via Russia	CC	2330	11915	Radio Gaucha, Brazil	PP
1300	15115	HCJB, Ecuador		2330	17810	Radio Japan/NHK	CC
1300	11675	China Radio Int'l		2330	11955	BBC, via Singapore	
1300	9615	KNLS, Alaska		2230	15105	Radio Romania Int'l	
1300	7245	BBC via Thailand		2330	17860	Deutsche Welle, via Sri Lanka	GG
1300	11820	Radio Polonia, Poland		2330	13730	Radio Canada Int'l	
1300	11585	All India Radio	Hindi				
1300	9715	Radio Tashkent, Uzbekistan					

# PRODUCT PARADE

Review Of New, Interesting And Useful Products

## Kenwood's New FreeTalk™ FRS Radios

Taking personal communication to a new level of convenience, style, and economy, Kenwood Communications has introduced FreeTalk™ EL, its smallest, least costly, family two-way radio. Offering both the operating range and channel capability of more expensive FRS radios, the new FreeTalk EL (Model UBZ-AM14) offers an illuminated LCD display, volume and status indicators, automatic battery saver function, ring tones, and other popular features. Offered in black and fashionable translucent blue, the radios have a suggested list price of \$114.95 per pair.

"Family radios are the easiest and least costly way for people to keep in touch over short or moderate distances," said Chris Ryg, Consumer Sales Manger. "It's easy to see why they have quickly become the most popular two-way radios for use by the general public."

The new FreeTalk EL, with a range of up to two miles, allows conversations to be conducted on any of the 38 "talk groups" available on each of its 14 channels. The radio's LCD display is lighted, providing good visibility at night or in darkened rooms. The display shows which channel and talk group is in use, whether the radio is sending or receiving a signal, and at what level the speaker volume is set. Volume is easily set with a 32-step control.

All radio controls and settings are operated using push-buttons. The radio's small size and ergonomic design allow for convenient one-handed operation by children as well as adults. Any number of people can participate in conversations on the same channel, and FreeTalk EL may be used with other FRS radios from Kenwood and other companies.

As with more expensive FRS radios, the FreeTalk EL allows users to contact each other either by voice or by sending a ring tone. To conserve power, the radio has a battery saver function that switches the receiver on and off at predetermined intervals. The radio, which sounds an alert tone when the battery level is low,



*The Kenwood FRS FreeTalk EL.*

operates on four AAA-size batteries, providing 30 hours of operation under typical usage patterns.

Among the smallest FRS family radios available from any company, the FreeTalk EL measures a mere 3-3/4" tall, 2-1/4" wide, and less than 1-1/4" deep. It is equipped with a fixed, low-profile antenna and belt clip. An instruction manual is packaged with each pair of radio, which carry a 90-day warranty.

Kenwood Communications is a leading manufacturer of two-way radios used in recreation, business, and government throughout the world. Further information can be obtained by contacting Kenwood Communications Corp., Technology Park at Johns Creek, 3975 Johns Creek Rd., Suwanee, GA 30024 (Toll free phone: 800-950-5005). The company's Website is located at [www.kenwood.net](http://www.kenwood.net).

## New Cobra Radar Detectors

Cobra Electronics Corporation, in a continued effort to develop innovative new products, announces three additional radar detectors, each with a new pro-

gressive feature designed to maximize awareness of driving environments. These features include: DigiView™ Information Center that provides the user with a complete readout of all data received by the detector; an electronic compass; cordless operation; and a 10-channel weather radio with a weather alert system.

"Once again, Cobra's enhancements have advanced the radar detection market. We have not only developed a premier product line, we've actually redefined the radar detector," said Tony Mirabelli, senior vice president for marketing and sales at Cobra Electronics. "We've built upon our track record of innovation with the 2001 product line, developing features that make these detectors true highway information systems."

Cobra's detection systems have been designed to meet the ergonomic and safety needs of drivers, including the leading detection technology and features to keep travelers aware of their surroundings. The standard safety features on the highway information product line include the Strobe Alert®, an exclusive feature that alerts motorists of emergency vehicles at intersections, and Cobra's patented Safety Alert® System, a technology that provides motorists with advanced warning of approaching emergency vehicles, trains, buses, road construction vehicles, public utility vehicles, and other potential road hazards.



*Cobra's top-of-the-line XR-1050 radar detector with a multitude of user-friendly features.*

BY HAROLD ORT AND R.L. SLATTERY

Another addition to Cobra's highway information system product line is the world's second 10-band radar/laser detector, the XR-1050, featuring a high-speed RISC digital processor, similar to those used in high-end computers. It is used to achieve incredibly high sensitivity for detection of radar and lasers with virtually no false alerts, providing the ultimate protection against accidents and traffic violations.

Cobra's new 9 and 10 band highway information systems will be available throughout 2001. New Cobra radar detector products include:

• **XR-1050** — Cobra's XR-1050 is the first 10-band radar detector to feature the DigiView™ Information Center that uses a combination of LCD display illuminated by bright LEDs, providing the driver with a complete readout of all data received by the system along with easily recognizable digital text display. The XR-1050 also features Digital Signal Processing, a high-speed RISC digital processor, similar to those used in high-end computers, and is used to achieve incredibly high sensitivity and virtually

no false alerts, providing the ultimate protection against accidents and traffic violations. The XR-1050 also includes the standard seven monitoring system (X, K, KA, VG-2, Ultra Lyte Laser, LTI 20-20, ProLaser), plus the Safety Alert® and the Strobe Alert® with 360 degree detection technology, and the ProLaserIII. The sharp black system has a suggested retail price of \$399.95 and it is expected to be available in the first quarter of 2001.

• **ESD-9220WX** — The addition of a 10-channel weather radio and weather alert system make the 9-band Cobra ESD-9220WX a market leader. To make a driver aware of atmospheric conditions, the ESD-9220WX weather radio has 10 frequencies: 7 channels dedicated to the National Oceanic Atmospheric Administration (NOAA) and 3 international channels. The ESD-9220WX also includes the standard seven monitoring system (X, K, KA, VG-2, Ultra Lyte Laser, LTI 20-20, ProLaser), plus the Safety Alert® and the Strobe Alert. Suggested retail price is \$189.95 and it is expected to be available in the second quarter of 2001.

• **ESD-9150** — For the safety and convenience of travelers, the 9-band ESD-9150 features an electronic compass. The compass consists of 4 LEDs (Light Emitting Diode) that provide 8-point directions (N, S, W, E, NW, NE, SW, SE). The ESD-9150 also includes the standard seven monitoring system (X, K, KA, VG-2, Ultra Lyte Laser, LTI 20-20, ProLaser), plus the Safety Alert® and the Strobe Alert. Suggested retail price is \$139.95 and it is expected to be available in the first quarter of 2001.

Cobra Electronics Corporation is a leading global manufacturer of two-way mobile communication products, holding the number one or strong number two position in every market in which it does business. The Family Radio Service business is one of the fastest growing segments of two-way mobile communications and Cobra is a leading player in the U.S., Canada, and Europe. Cobra has a 40-year track record of innovation and award-winning products, and leads the industry in developing technology applications that serve the market. To learn more about Cobra Electronics and its products, please visit the Cobra site at [www.cobraelectronics.com](http://www.cobraelectronics.com).

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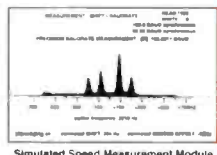
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### HOKA CODE-3 GOLD

"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 GOLD. It's up to you to make the choice, but it will be easy once you see CODE-3 GOLD. All units have 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 GOLD works on any IBM compatible computer with MS-DOS with at least 640kb of RAM, and a VGA monitor. CODE-3 GOLD includes software and a complete audio to digital FSK converter.



Simulated Speed Measurement Module

Modes included in BASIC package Modes included in STANDARD and PROFESSIONAL package

- |   |                                |  |                                |
|---|--------------------------------|--|--------------------------------|
| • Morse   | • Autospic - Mk's I & II       | • TDM242/ARQ-M2/4-242                        | • PicoLo                       |
| • RTTY/Baudot/Murray  | • DUP-ARQ Artrac               | • TD342/ARQ-M2/4                             | • Coquelet                     |
| • Snor CCIR 625/476-4   | • Twinplex                     | • FEC-A                                      | • 4 special ARQ & FEC systems: |
| • ARO - Navtex  | • ARQ6-90/98                   | • FEC-100A/FEC101                            | • TORG-10/11                   |
| • AX25 Packet   | • S-ARQ/ARQ-S                  | • FEC-S - FEC1000                            | • ROU-FEC / RUM-FEC.           |
| • Facsimile all RPM (up to 16 gray shades at 1024 x 768 pixels) | • SWED-ARQ-ARQ-SWE             | • Simplex                                    | • HC-ARQ (ICRC) and HNG-FEC    |
| • Heliscriber-Synch/Asynch                                      | • ARQ-E/ARQ1000 Duplex         | • Sports info 300 baud ASCII                 | • SYNOP decoder                |
| • ASCII   | • ARQ-N-ARQ1000 Duplex Variant | • Sitor - RAW (Normal Bit but without Synch. |                                |
| • Pacior  | • ARQ-E3-CCIR519 Variant       | • ARQ6-70                                    |                                |
| • WEFAX   | • POL-ARQ 100 Baud Duplex ARQ  | • Baudot F788N                               |                                |

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# BROADCAST DXING

DX, News And Views Of AM And FM Broadcasting

## Art Bell Is Back!

The infamous Art Bell has come out of retirement, returning to his old haunt on Coast-to-Coast AM. Although successful, negotiations with Premiere Radio Networks to bring back the talk show host from the Kingdom of Nye were described by Bell as "brutal and bloody." Bell abruptly retired from broadcasting last April because of legal and family issues that required his full attention. However many listeners may remember the dire Y2K predictions for which Bell was widely criticized prior to his retirement. With legal issues resolved, and feeling revitalized after his brief self-described "anonymous lifestyle," Bell plans to continue the search for the truth from the underworld of alien encounters and Area 51 government conspiracies. Whether or not you believe in the metaphysical, it makes for some entertaining and informative late night radio. Coast-To-Coast AM with Art Bell is carried after dark on over 430 radio stations in the U.S. and Canada, beating the network affiliation record previously held by the legendary radio talk host Larry King. Visit [www.artbell.com](http://www.artbell.com) for a complete affiliate list and program information.

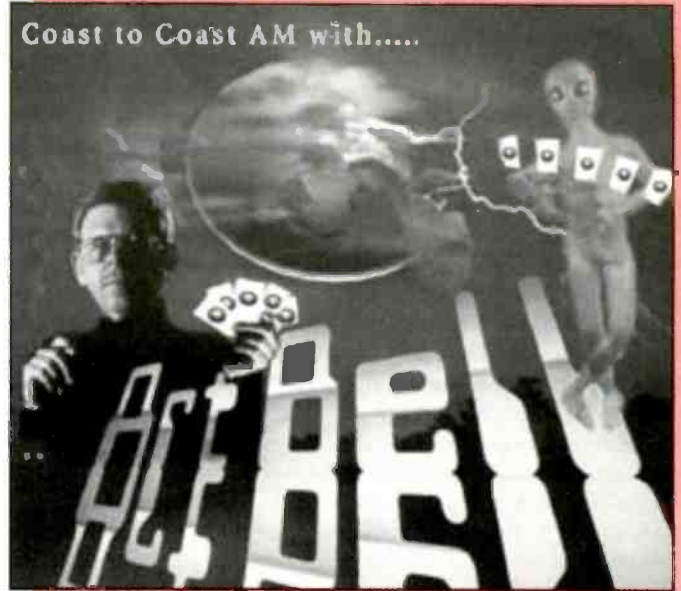
Art Bell is also an avid amateur radio operator, call letters W6OBB. The Art Bell Ham radio group is active on 3830 kilohertz during and after most broadcasts.

The return of Art Bell means that Mike Siegel is out of a job. Siegel filled the void on Coast-to-Coast AM, continuing the investigation of the covert and unknown while Bell was in retreat. Let's wish him the best in his future endeavors.

### Coast-To-Coast AM With Art Bell Clear Channel Affiliates

This is just a partial listing of widely heard stations. Visit [www.artbell.com](http://www.artbell.com) for a complete station list.

620	WTMJ	Milwaukee, WI
640	KFI	Los Angeles, CA
640	CFYI	Richmond Hill, ON
650	KENI	Anchorage, AK
650	CINT	Saskatoon, SK
680	WRKO	Boston, MA
690	WOKV	Jacksonville, FL
720	KDWN	Las Vegas, NV
770	KKOB	Albuquerque, NM
770	WABC	New York, NY
770	CHQR	Calgary, AB
800	CKLW	Windsor, ON
810	WGY	Schenectady, NY
830	KHVH	Honolulu, HI
890	WLS	Chicago, IL
940	WMAC	Macon, GA
1000	KOMO	Seattle, WA
1070	WIBC	Indianapolis, IN
1100	WTAM	Cleveland, OH
1110	KFAB	Omaha, NE



Late night talkshow host Art Bell.

1120	KPNW	Eugene, OR
1140	WRVA	Richmond, VA
1190	KEX	Portland, OR
1200	WOAI	San Antonio, TX
1210	WPHT	Philadelphia, PA
1500	KSTP	St. Paul, MN
1650	KDNZ	Cedar Falls, IA

### Corporate Power Attacks Low Power FM

Under pressure from the National Association of Broadcasters (NAB) and National Public Radio (NPR), Congress quietly passed legislation curtailing the implementation of low power FM (LPFM). Under HR 4942 and HR 5548, proposed LPFM facilities must now fully protect existing full-service FM stations and translators on third adjacent channels. The FCC had originally relaxed protection standards for LPFM, only requiring second adjacent channel protection. LPFM must now be consistent with established full-service protection criteria. While this severely reduces the number of available frequencies for LPFM, the FCC still expects to approve hundreds of applications. The new LPFM service will consist of FM radio stations with maximum powers of 10 and 100 watts licensed to noncommercial organizations for local public service broadcasting.

### Saying Goodbye To An Old CHUM

Oldies music on 1050 CHUM in Toronto is a thing of the past. The CHUM radio group is launching "The Team," a new

BY BRUCE CONTI <[BAConti@aol.com](mailto:BAConti@aol.com)>

national sports radio network. The fate of oldies music on 1050 was perhaps predestined by the fact that CHUM had become the voice of Toronto Blue Jays baseball last year. CHUM network station CFGO Ottawa on 1200 kilohertz has been known as "The Team" sports radio for some time now. Other CHUM stations expected to become part of The Team include CKLW Windsor on 800, CJCH Halifax 920, CKKW Kitchener 1090, CFST Winnipeg 1290, CKLC Kingston 1380, CFUN Vancouver 1410, and CKPT Peterborough on 1420 kilohertz. 1050 CHUM has been long associated with oldies music and outstanding personalities like Jungle Jay Nelson, Jack Armstrong, and the present day Charlie O'Brian. CHUM first signed on in 1944 and broadcast various forms of pop music until 1989 when they returned to the roots of rock 'n roll. Although nostalgic listeners will now have to look elsewhere for their oldies, 104.5 CHUM-FM will continue the tradition of bringing the latest hit music to Toronto listeners. However for many there will never be anything like the original 1050 CHUM.

### KCBQ In Panama

While on tour of duty in the Gulf of Panama for the U.S. Navy, Ron Gitschier recorded some airchecks of rarely heard Central American radio stations for the National Radio Club's DX Audio Service. One such station identified itself as "la emisora CBQ" and KCBQ. On 1270 kilohertz from Panama City, the Spanish language tropical and local music programs included many 'CBQ jingles that sounded like they were borrowed from the late '60s or early '70s when KCBQ San Diego was a pop music station. Announcers identified the station as 'CBQ and KCBQ using the English pronunciation of the letters. For now it remains a mystery how 'CBQ ended up in Panama, but next time you're on a luxury cruise through the Panama Canal be sure to tune in the Latin American version of KCBQ on 1270. By the way, if you look for CBQ Panama in the WRTH, it's incorrectly listed as CMQ.

### QSL Information

**540 XEJAZZ Tijuana, Mexico**, verification in six days, signed Tom White-Director of Eng. Address is P.O. Box 250028, Los Angeles, CA 90025 (Martin, OR)

**740 CHWO Toronto, Ontario**, has selected the Ontario DX Association (ODXA) to act as the QSL manager. The ODXA will issue a QSL card, history, and technical info. Address is Brian Smith, ODXA, P.O. Box 161 Station A, Willowdale, ON M2N 5S8. (Conti, NH)

**1130 CKWX Vancouver, British Columbia**, QSL card indicating 2-tower DA2 antenna and 50,000 watts, for an informal E-mail report. Address is 2440 Ash St, Vancouver, BC V5Z 4J6. (Meyer, CA)

**1161 DXDS Digos, Philippines**, a real friendly letter (handwritten) in 90 days for a taped report, signed Gaudencia Y. Sabella — Engineering. Mentioned they are 1 kW. Address is Cor. P. Reyes and Palima Gil Streets, 8000 Davao City, Philippines. (Martin, OR)

**1190 KLUV Dallas, Texas**, verification letter in 168 days after follow-up report, signed Bill Taylor-CE. Address is KLUV at Infinity Broadcasting, 4131 N Central Expressway-Ste 700, Dallas, TX 75204. (Martin, OR)

**1240 CJNS Meadow Lake, Saskatchewan**, verification let-

ter and tourist info in 18 days for taped report, signed Dianne D. Thomson-Exc. Assit. Address for CJNS is Box 1460, North Battleford, SK S9A 2Z5. (Martin, OR)

**1296 DXAB Davao City, Philippines**, friendly letter and stickers in 97 days for a taped report, signed Micomim Prudencio Alojado-Station Manager. Address them at KM-4, Shine Hills, Matina, Davao City, Philippines. Philippines MW QSL #21. (Martin, OR)

**1570 WGSR Fernandina Beach, Florida**, a full-data multicolor QSL form, along with coverage maps, copies of old QSL letters from the '50s, etc. in 21 days, signed Ronald C. Gitschier-Eng. Assit. Address is 707 Dade Street, Fernandina Beach, FL 32034. (Martin, OR)

**1620 KBLI Blackfoot, Idaho**, verification in 11 days, signed Carl Watkins — CE. Address is P.O. Box 699, Blackfoot, ID 83221. This station is now QSLing so re-send your reports. (Martin, OR)

**1630 WRDW Augusta, Georgia**, verification letter in 30 days, signed Harley Drew — Operations Dir. Address reports to P.O. Box 211045, Augusta, GA 30917. (Jackson, CA)

**1680 KAVT Fresno, California**, verification of test in 30 days, signed Paul Shinn — CE. He stated that they would be in full time operation shortly. Address is 139 W Olive Ave, Fresno, CA 93728. (Jackson, CA)

**1690 KSXX Roseville, California**, letter-size full-data QSL with nice handwritten letter at bottom in 23 days for taped report and \$1 (returned), signed Len Harris, Chief Engineer who says the antenna is a 150-foot series fed tower located in Elverta and they presently relay programs from both KLIB 1110 and KOBO 1450. Address: 3463 Ramona Ave, Suite 15, Sacramento, CA 95826. (Griffith, CO) Handwritten letter in 21 days signed Len Harris — CE. He is also the CE for KLIB, KOBO, KEST, and KSJX. Address reports to 429 Elizabeth St, San Francisco, CA 94114. (Martin, OR)

### Broadcast Loggings

Welcome to several new reporters! This month's selected logs begin with an outstanding reception of Costa Rica by Dale Gale in the Appalachian mountains of North Carolina, "near the Tennessee border about 3250 feet above sea level." Dale is a shortwave and utilities listener. This is his first foray into AM DXing. Dale currently uses a Sangean 818, but hopes to upgrade to either the ICOM R75 or Yaesu FRG 100. Additional log reports include the results of DX tests conducted by WILM and WGSR. All times are UTC.

**530 TICAL Radio Rumbo, Cartago, Costa Rica**, at 0540 in Spanish with ID and music. (Gale, NC) Nice, especially with 100 kW Radio Cristiana, Turks & Caicos on the same frequency! The mountains must help to block signals from the east.

**580 WTAG Worcester, Massachusetts**, at 0433 with ID and the Mike Regan Show. (Gale, NC)

**740 KRMG Tulsa, Oklahoma**, at 0204 with ID, news, various ads, and sports. (Gale, NC)

**740 CHWO Toronto, Ontario**, at 0420 Primetime Radio played Frank Sinatra, Bing Crosby, etc. and would break in every three or four songs to state it was a test broadcast. (Kitts, SC)

**830 WCCO Minneapolis, Minnesota**, at 0528 with various ads, weather and road conditions. (Gale, NC)

**950 Radio Reloj, La Habana, Cuba**, at 0438 a man and

<u>Pending</u>				<u>New Call</u>	<u>Location</u>	<u>Freq.</u>	<u>Old Call</u>
<u>New Call</u>	<u>Location</u>	<u>Freq.</u>	<u>Old Call</u>				
				KLFV	Grand Junction, CO	90.3	KJOL
				KLDV	Morrison, CO	91.1	KWBI
WDYZ	Orlando, FL	990	WHOO	WTSE	Cypress Quarters, FL	90.5	New
WJMR	Fort Campbell, KY	1370	WABD	WAYS	Macon, GA	99.1	WDEN
WHMQ	Greenfield, MA	1240	WHAI	WDEN-FM	Macon, GA	105.3	New
WHKW	Warren, OH	1440	WRBP	KDDB	Waipahu, HI	102.7	KKBM
WRJR	Claremont, VA	670	WHRP	KIJZ	Gooding, ID	100.7	KMXM
WDVM	Eau Claire, WI	1050	WEIO	KPLV	Idaho Falls, ID	105.5	KOSZ-FM
WHHZ	Newberry, FL	100.5	WRKG	WZZN	Chicago, IL	94.7	WXCD
KMCV	High Point, MO	89.9	KBMF	WYLL-FM	Des Plaines, IL	106.7	WYLL
KSCV	Springfield, MO	90.1	KAKU	WKRI	Mount Carmel, IL	94.9	WTRI-FM
				WLRT	Kentland, IN	101.7	WZRK
				WBTO-FM	Petersburg, IN	102.3	WFPC
				WZKF	Salem, IN	98.9	WZTR
				KFBZ	Haysville, KS	105.3	KWCY
				WPTI	Louisville, KY	103.9	WPTK
				KHCL	Arcadia, LA	92.5	New
				WBBE	Hammond, LA	103.3	WCAC
				WLTF	Williamsport, MD	95.9	WYII
				KXMO-FM	Owensville, MO	95.3	New
				KSLI-FM	Crete, NE	104.1	KKNB
				KMXM	Omaha, NE	94.1	KSSO-FM
				KNYE	Pahrump, NV	95.1	New
				KHQT	Las Cruces, NM	103.1	KXDA
				KQBA	Los Alamos, NM	107.5	KEFE
				KKPL	Los Alamos, NM	106.7	KBOM
				KBOM	Santa Fe, NM	94.7	KZXA
				KKVS	Truth Or Consequences, NM	98.7	KSNM-FM
				WPHR	Auburn, NY	106.9	WHCD
				WHTR	Corinth, NY	93.5	WZZM-FM
				WFKP	Ellenville, NY	99.3	WTHN
				WFFG-FM	Hudson Falls, NY	107.1	WHTR
				WZUN	Phoenix, NY	102.1	WRDS
				WPKF	Poughkeepsie, NY	96.1	WTND
				WWCC	Eden, NC	94.5	WXRA
				WTHZ	Lexington, NC	94.1	WWGL
				WJAW-FM	McConnellsville, OH	100.9	WJAW
				WCUZ	North Kingsville, OH	107.5	WPHR
				KTSO	Okmulgee, OK	94.1	KCFM
				WFYY	Bloomsburg, PA	106.5	WHLM
				WCCL	Central City, PA	101.7	WSRA
				WBSX	Dallas, PA	93.7	WCTD
				WMOU-FM	Du Bois, PA	102.1	WOWQ
				WVLY-FM	Milton, PA	100.9	WVLY
				KSQB-FM	Dell Rapids, SD	95.7	KSOB
				KSOB-FM	Flandreau, SD	107.9	KSOB-FM
				KLTY	Arlington, TX	94.9	KWRD-FM
				KESN	Commerce, TX	103.3	KEMM
				KWRD-FM	Highland Village, TX	100.7	KLTY
				KTBZ-FM	Houston, TX	94.5	KTBZ
				KEXX	Llano, TX	106.5	New
				KWBI	West Odessa, TX	88.7	KWRI
				KCFM	Levan, UT	99.1	KBLN
				KUBL-FM	Salt Lake City, UT	93.3	KUBL
				KVAS	Ilwaco, WA	103.9	KAQX
				KAQX	Long Beach, WA	94.3	KKEE-FM
				KBNO-FM	White Salmon, WA	89.3	KBNO
				WZRK	Nekoosa, WI	93.9	WXEC

<u>Changes</u>							
<u>New Call</u>	<u>Location</u>	<u>Freq.</u>	<u>Old Call</u>				
WQCR	Alabaster, AL	1500	WGTT				
KGMS	Tucson, AZ	940	KCEE				
KNWZ	Coachella, CA	970	KCMJ				
KRLA	Glendale, CA	870	KIEV				
KNWQ	Palm Springs, CA	1140	KCLB				
KAZT	Redding, CA	600	KNRO				
KNRO	Redding, CA	1670	KAZT				
KCMJ	Thousand Palms, CA	1010	KNWZ				
KUBL	Colorado Springs, CO	1300	KTWK				
KBNO	Denver, CO	1280	KVOD				
WJNA	Boynton Beach, FL	1040	WBZT				
WPPD	Mulberry, FL	780	WPNP				
WJZR	Palm Beach Gardens, FL	1100	New				
WBZT	Pompano Beach, FL	1230	WJNA				
WAYS	Macon, GA	1500	WDEN				
WYLL	Chicago, IL	1160	WXRT				
WSPL	Streator, IL	1250	WIZZ				
KXNO	Des Moines, IA	1460	KDMI				
WBIX	Natick, MA	1060	WMEX				
KAKK	Walker, MN	1600	KLLZ				
WNER	Watertown, NY	1410	WGME				
KKEE	Astoria, OR	1230	KVAS				
KDBZ	Portland, OR	620	KEWS				
WWJK	Moncks Corner, SC	950	WMCJ				
KSQB	Sioux Falls, SD	1520	KSFS				
WLIL	Lenoir City, TN	730	WKZX				
KSLI	Abilene, TX	1280	KBBA				
WVHU	Huntington, WV	800	WKEE				
WJAW	St. Marys, WV	630	WVVW				
WCXQ	Mayaguez, PR	1260	W12XSO				
WELJ	Brewton, AL	90.9	WPHG-FM				
WNAL	Killen, AL	90.5	New				
KCEE	Green Valley, AZ	97.1	KGMS				
KTXX	Hope, AR	101.7	KXAR-FM				
KQDD	Osceola, AR	107.3	KOSE-FM				
KHRI	Hollister, CA	90.7	New				
KDRH	King City, CA	91.3	KBAP				
KSFB	San Rafael, CA	100.7	KJQI-FM				
KJOL	Santa Cruz, CA	90.7	KLSN				
KNVQ	South Lake Tahoe, CA	102.9	KZZF				
KVOD-FM	Delta, CO	103.3	KPRU				
KLXV	Glenwood Springs, CO	91.9	KDRH				

woman announcing team speaking in Spanish with time pips in the background. At the top of each minute, I heard a slightly longer tone followed by what sounded like CW. (Limbach, PA) The CW is a "RR" Morse code identification, heard after each minute marker and time announcement.

**1040 WHO Des Moines, Iowa**, at 0505 with local weather followed by call in talk show. (Gale, NC)

**1089 Talk Sport synchros, England**, good at 0350 with talk this morning about sports and George W. Bush, 40-50-60 free phone number, then at 0300 news headlines, lottery numbers, weather and sports update, over an unidentified station with Arabic-sounding flute and string music. (Conti, NH)

**1450 WILM Wilmington, Delaware**, 0500-0610 a special DX test was somewhat audible here in northeast Ohio. In the U.S. this is a crowded frequency but I was able to make out the sirens and Morse code used periodically during the test. (Silvi, OH) The DX test was also heard in New York, Ontario, and Vermont.

**1510 Radio Netherlands, Wolvertem, Belgium**, a poor signal at 2320 with a man and woman in English, sign-off at 2330 with mention of Radio Netherlands and "... thank you for listening" followed by a brief instrumental, then off leaving a weak het against WNRB likely from Saudi Arabia. (Conti, NH)

**1548 VOA Kuwait City, Kuwait**, fair at 0305, a man in English with VOA News Now from Washington, parallel several shortwave frequencies including 6130, 7405, 9455, 11695, and 13740 kHz. (Conti, NH)

**1570 WGSF Fernandina Beach, Florida**, the WGSF test did it all the way across the Atlantic Ocean. I picked it up here in Sweden at times between 0515 and 0730, not so strong but clearly readable at times. (Bygdén, Sweden) The DX test was also heard in Scotland and New Zealand. (Gitschier, FL)

**1570 WNST Towson, Maryland**, fair at 2300, "1570 Sports, WNST Towson, Baltimore" and One-On-One Sports. (Conti, NH)

**1620 WTAW College Station, Texas**, at 0345 with the G. Gordon Liddy Show and news. (Gale, NC)

Thanks to Lars Bygdén, Dave Gale, Ron Gitschier, Patrick Griffith, Gary Jackson, Steven Kitts, Brian Limbach, Patrick Martin, Doug Meyer, and Lee Silvi. 73 and good DX! ■

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# PLANE SENSE

Your Link To Aviation Communications

## Two Premier Aviation Fly-Ins: Frequencies And Info!

This being the May issue of *PopComm* I was going to explain more of what you hear controllers and pilots say, but I didn't really think that I would get this information in time for your use. Most of you will get this issue around the first of April. So I decided to throw in the frequencies for one of the two premiere aviation fly-ins in the U.S. — the **2001 Sun 'n Fun EAA Fly-In** at Lakeland, Florida (LAL). The other is at Oshkosh, WI (OSH) in late summer. I hope to have those frequencies to you in time for that one.

Sun 'n Fun runs from April 8 to 14 with aerobatic demonstrations daily from 2 to 6 p.m. and an evening air demo on Tuesday April 10 from 7 to 10 p.m.

This is one of the premiere events in the flying community. It draws in literally tens of thousands of pilots, pilot's spouses, former pilots, children, and anybody the least interested in aviation. Parking of aircraft takes up not only most of the grass between the runways and taxiways but also all of the runways except runway 9/27. Even certain approaches will be shut down for runways 5 and 9 during the event.

Temporary frequencies will be activated during this time with a temporary airport traffic control tower activated at Plant City, Florida (PCM), and a temporary Flight Service Station at Lakeland.

Some of these frequencies are in regular use; some temporary just for this event. To avoid missing some I'll just list them all here:

Lakeland Arrival ATIS	135.15
Lakeland Departure ATIS	118.025
Lake Parker Arrival	124.5
Lakeland Ground Control	121.4
Lakeland IFR Ground Control	121.7
Sun 'n Fun EAA	
Ground Advisory	126.4
Lakeland VOR	116.0
Warbird Parking Advisory	119.25
Lakeland UHF	380.25
Lakeland Tower North	127.7
Lakeland Tower South	135.9
Lakeland FSS	122.05



Plant City Tower*	127.6
Plant City Unicom and CTAF*	123.0

\* Plant City Tower is active only April 6-11 from 8 a.m. to 4 p.m. The Plant City Unicom and CTAF is active all other times.

The Lake Parker Arrival involves aircraft coming into the airport from Lake Parker, 7 miles northeast of the airport west to due north of the airport and then turning south toward the airport. All aircraft have to turn on their landing lights within 30 miles of the airport for other pilots to see them, as this is very congested airspace. Traffic is expected to be so high that the north taxiway that is parallel to runway 9/27 will be a temporary runway indicated as 9L/27R, the normal runway will be redesignated as 9R/27L for the fly-in.

Normally when an aircraft departs a small airport the pilot may turn toward his destination almost immediately after he crosses the departure end of the runway. Such is not the case during Sun 'n Fun. The pilot must proceed straight out for a minimum of three miles before pro-

ceeding on course. Even then the pilot must stay aware of other departing and arriving pilots.

Not only will those frequencies be hopping, but you may try listening to many of the outlying approach control and airport traffic control frequencies for additional activity. A short list of these are:

Daytona Approach (DAB)	125.8
Fort Myers	
Approach (RSW)	119.75/125.15/126.8
Gainesville/Ocala (GNV/OCF)	118.6/128.67
Orlando	
Approach (MCO)	119.4/121.1/135.3
Sarasota (SRQ)	119.65
Tampa Approach (TPA)	119.65/119.9/125.3

West Palm Beach Approach (PBI) 124.6/125.2  
Air Route Traffic Control Center frequencies will also be quite active. Try these:

Jacksonville ARTCC (ZJX)	
North Gulf Coast	128.05
North Central Florida	133.325
North Atlantic Coast	134.0

BY BILL HOEFER <flacap388@prodigy.net>



**Call Signs**

**United States**

CABLE CHECK	Flight Trac, Inc (Everett, WA)	CCK
CACTUS	America West Airlines (Tempe, AZ)	AWE
CAFEX	Inter-Air, Inc. (Denver, CO)	ITA
CAIR	Hyannis Air Service, Inc. (Hyannis, MA)	KAP
CAL AIR	Airplanes, Inc (Concord, CA)	REZ
CALIFORNIA SHUTTLE	Minson Aviation, Inc. (Oxnard, CA)	CSL
CANDLER	Atlantic Southeast Airlines, Inc. (Hapeville, GA)	CAA
CANYON VIEW	Grand Canyon Airlines, Inc. (Grand Canyon, AZ)	CVU
CAP CITY	Capital City Air Carriers, Inc. (Pierre, SD)	CCQ
CAPAIR	Capital Air Service, Inc. (Manhattan, KS)	CPX
CAPE SMYTHE AIR	Cape Smythe Air (Barrow, AK)	CMY
CAP-FLIGHT	U.S. Air Force Auxiliary, Civil Air Patrol (Maxwell AFB, AL)	CPF
CAPITAL	Capital Airlines, Inc. (Oxford, CT)	CAP
CAPITOL EXPRESS	Capitol Air Express (Reston, VA)	CEX
CAPPY	Capital Cargo International Airlines (Orlando, FL)	CCI
CARGO EXPRESS	Taonduk Outfitters, Ltd (Fairbanks, AK)	FXG
CARGO HAWK	Kitty Hawk Airways (Dallas-Ft. Worth, TX)	KHC
CARIB-X	Caribbean Express, Inc. (Miami Springs, FL)	TLC
CAROLINA	Sunbird Airlines, Inc. (Charlotte, NC)	CDL
CASAIR	Casino Airlines, Inc. (Shreveport, LA)	CSO
CASCADE	Flightcraft, Inc. (Portland, OR)	CSK
CASEMENT	Casement Aviation (Plainesville, OH)	CMT
CASINO EXPRESS	Casino Express Airlines (Elko, NV)	CXP
CASPER AIR	Casper Air Service, Inc. (Casper, WY)	CSP
CASPER FREIGHT	Jet Freighters, Inc. (Portland, ME)	CFT
CASTLE	Castle Aviation, Inc. (Ravenna, OH)	CSJ
CATALINA AIR	Catalina Flying Boats, Inc. (Long Beach, CA)	CBT
CATBIRD	Corporate Air Fleet, Inc. (Iron Station, NC)	CTX
CATT	Custom Air Transport, Inc. (Dania, FL)	CTT
CENTRAL COMMUTER	Central Airlines, Inc. (Kansas City, KS)	CTL
CENTRAL STAGE	International Business Aircraft, Inc. (Tulsa, OK)	IBY
CENTURY	Cryderman Air Service (Drayton Plains, MI)	CTY
CHALKS	Flying Boat, Inc. (Ft. Lauderdale, FL)	CHK
CHALLENGE AIR	Challenge International Airlines (Miami, FL)	OFF
CHAMPION AIR	Grand Holdings, Inc. (Manhattan Beach, CA)	CCP
CHANNEL	Channel Island Aviation (Oxnard, CA)	CHN
CHAPARRAL	Chaparral Airlines (Abilene, TX)	CPL
CHARGE	Walmart Aviation (Rogers, AR)	CGG
CHASQUI	I.B.C. Airways, Inc. (Miami, FL)	CSQ
CHAUTAUQUA	Chautauqua Airlines (Jamestown, NY)	CHQ
CHECK AIR	Top Flight Air Service, Inc. (Tampa, FL)	CHE
CHECKMATE	Corporate Aviation Service, Inc. (Tulsa, OK)	CKE
CHENANGO	Aquila Air, Inc. (Endicott, NY)	CNH
CHERRY	Cherry Air, Inc. (Dallas, TX)	CCY
CHESAPEAKE AIR	Chesapeake Air Service (Pasadena, MD)	CAB
CHEVRON	Chevron (New Orleans, LA)	CVR
CHEYENNE AIR	Cheyenne Airways, Inc. (Cheyenne, WY)	CYA
CHICAGO LINCOLN	Air Lincoln, Inc. (Chicago, IL)	ALN
CHIPPEWA-AIR	Chippewa Air Commuter, Inc. (Manistee, MI)	CPW
CHRISTMAN	Christman Air System (Washington, PA)	CAS
CHRYSLER	Chrysler Pentastar Aviation, Inc.	CYL
CHURCHAIR	Church Aircraft Ltd (Denver, CO)	CHU
CIMMARON AIRE	Eckles Aircraft Co. (Holdenville, OK)	CMN
CITRUS	Airtran Airways, Inc. (Orlando, FL)	TRS
CLARKAIR	Clark Aviation Corp. (New Cumberland, PA)	CLK
CLIFTON AIRWAYS	Trans America (Englewood, CO)	CLR

CLIPPER	Pan American Airways Corporation (Dania, FL)	PAA
CLOVERLEAF	Dassault Falcon Jet (South Hackensack, NJ)	CVF
COASTAL	Coastal Air Transport (Christiansted, St. Croix)	CXT
COAST GUARD	U.S. Coast Guard	C
COHLMIA	Cohlma Aviation (Dallas, TX)	CHL
COLGAN	Colgan Air (Manassas, VA)	CJC
COLUMBIA HELI	Columbia Helicopters, Inc. (Lake Charles, LA)	WCO
COMAIR	Comair, Inc. (Cincinnati, OH)	COM
COMMONWEALTH	Commonwealth Jet Service, Inc. (Sandston, VA)	CJS
COMMUTAIR	Commutair (Plattsburgh, NY)	UCA
COMPASSION	Air Care Alliance (Storrs, CT)	CMF
CONAERO	Condor Aero Services, Inc. (Cullman, AL)	CNR
CONGRESSIONAL	Congressional Air, Ltd (Gaithersburg, MD)	CGA
CONNIE	American International Airways, Inc. (Ypsilanti, MI)	CKS
CONOCO	Continental Oil Co. (Ponca City, OK)	CON
CONQUEST AIR	Conquest Airlines (Beaumont, TX)	CAC
CONROE AIR	Conroe Aviation Services, Inc. (Conroe, TX)	CXO
CONTINENTAL	Continental Air Lines Inc.	COA
COOK-AIR	Cook Inlet Aviation, Inc. (Homer, AK)	CKA
COPPER STATE	Copper State Air Service, Inc. (Mesa, AZ)	COP
CORPAIR	Corporate Air, Inc. (Hartford, CT)	CPR
CORP-X	Corporate Express Airlines (Nashville, TN)	CEA
COWBOY	Austin Express, Inc. (Austin, TX)	TXX
COYOTE	Air Transport, Inc. (El Paso, TX)	CYO
CROW EXPRESS	Crow Executive Air, Inc. (Millbury, OH)	CWX
CROWN AIR	Crown Air Systems	CKR
CROWN AIRWAYS	Crown Airways, Inc. (Dubois, PA)	CRO
CRYSTAL-AIR	Crystal Shamrock (Minneapolis, MN)	CYT
CUMBERLAND	Nicholson Air Service, Inc. (Cumberland, MD)	CBL
CYCLONE	Accessair, Inc. (Des Moines, IA)	CYD

**Canada**

CALM AIR	Calm Air	CAV
CANADA WEST	Canada West Air Ltd.	CWA
CANADIAN	Canadian Airlines International Ltd.	CDN
CANADIAN COAST GUARD	Canadian Coast Guard	CTG
CANADIAN EXECAIRE	Execaire Aviation Ltd.	EXA
CANADIAN REGIONAL	Canadian Regional Airlines Ltd.	CDR
CANAIR	Canair	CWW
CAN-AM	Air Park Aviation Ltd.	APA
CANEX	AllCanada Express Ltd.	CNX
CANFORCE	Canadian Armed Forces	CFC
CARIBOO	Aviair Aviation Ltd.	AVF
CENTENNIAL	Centennial Flight Centre	CNS
CENTRAL AIRWAYS	Central Airways Corp	CEN
CHILCOTIN	Chilcotin Caribou Aviation	DES
CHILLIWACKAIR	Chilliwack Aviation Ltd.	CAD
CITY EXPRESS	Air Atonabee Limited	OUL
COMET	Prince Edward Air Ltd	CME
COMMANDAIR	Commander Air Charter Limited	CML
COMMUTER-CANADA	Simpson Air Ltd.	NCS
CONFORT	Confort Air Inc.	COF
CONNECTOR	Air Toronto Inc.	CNE
CORPORATE	Corporate Airlink	COO
COUGAR	Cougar Helicopters, Inc.	CHI
COUGAR AIR	Cougar Air, Inc.	CAJ
CREE	Air Creebec	CRQ
CREE AIR	Cree Airways Corporation	

Miami ARTCC (ZMA)		Frequency of 127.1 but also the St.	Orlando (ORL)	122.65/123.65
South Gulf Coast	132.4/132.55	Petersburg Flight Service Station fre-	Punta Gorda (PGD)	122.025
South Central Florida	127.2/135.55	quencies. You can listen to:	St. Petersburg (PIE)	122.45/123.6
South Atlantic Coast	135.17		Sebring (SEF)	122.25
		Brooksville (BKV)	Tampa (TPA)	123.6
		Daytona Beach (DAB)	Titusville (TIX)	123.6
Monitor not only the temporary		Melbourne (MLB)	Vero Beach (VRB)	122.5
Lakeland Flight Service Station				

You can also listen in to St. Petersburg FSS in the Lakeland, Ormond Beach, and Sarasota areas by monitoring the pilots on **122.1** and then listening to the reply from St. Pete on:

Lakeland (LAL) 116.0  
Ormond Beach (OMN) 112.6  
Sarasota (SRQ) 115.2

Those of you with the publications I recommended from last year will recognize these as the VOR's for the area. I won't see much of it, as I will be at the Lakeland temporary Flight Service this year for the first time.

Happy monitoring and write me with what you've heard.

## Answers To Your Aviation Questions

Jim Cooper writes: "Mr. Hoefler: In your 'Plane Sense' column in the February 2001 issue of *Popular Communications*, you mentioned a U.S. version of the 'green book' called the *U.S. Flight Supplements*. Since I missed your earlier article, would you please enlighten me as to where these publications may be obtained and their approximate cost?"

Good question, Jim. Many people who have written to me have just recently started reading *PopComm* and ask some questions about what I've addressed in earlier columns. I have no problem re-answering them. The "green book" I talk about is the *Airport/Facility Directory* also known as the A/F D. There are seven volumes for the lower 48 states, including Puerto Rico and the Virgin Islands. The cost per volume is \$4.10 give or take, and it can be bought at many fixed base operators at airports. Look under Aircraft Parts or Aircraft Rentals or the like in the yellow pages. A couple of caveats, however. You do not need all seven unless you do a lot of traveling. Get only the one or two for the area or areas you are in or frequent the most. Also these are updated every 56 days and you really don't need to get a new one each time they come out. Purchasing one every year or two pretty much suffices. Thanks, Jim.

Don Payne, VO1XH, from St. John's, Newfoundland, Canada, writes: "Hello Bill, first, thanks for a great column every month for us aviation monitors. I look forward to it every issue and the info is just super. I am a licensed radio amateur and I use a Realistic PRO-2010 at home and

a Kenwood TM261A 2 meter mobile in my SUV. Here are a few frequencies that I monitor on a regular basis:

120.6 MHz St. John's Tower  
121.9 MHz St. John's Ground Control  
133.15 MHz. VFG Gander Center ATC  
128.0 MHz. St. John's Airport ATIS

As you can appreciate, the Gander ATC frequency is a busy channel, as aircraft on international routes call in to get there HF frequencies for North Atlantic crossing. I heard a controller one evening mention that there was about 250 aircraft over the Island of Newfoundland at the present time! Again thanks for a great column. The Kenwood TM261 is a great radio for any ham who likes to monitor the 108-136 MHz airband as well as keep an ear for public service monitoring and amateur radio communications."

Thanks for the report, Don. Those in the area of St. John's can use these frequencies to hear a rather busy center. Most aircraft transiting over "the pond" between North America and Europe talk to Gander en route. I'll try to do a column on international routes in the future. Also thanks for the info on the TM261. As a ham (KG4KGC), a SWLer (old WPE4JZZ), a scanner enthusiast, and a member of the Civil Air Patrol (Florida CAP 388) I could definitely use this myself.

I had more letters E-mailed to me, but my computer crashed a couple of weeks ago and I just got it working adequately about a week ago. I'll try to access the letters I missed and get them for future "Plane Sense" columns.

Now for some frequency changes:

### NEW

**CA**  
Montague/Siskiyou County (SIY)  
ASOS 121.125

Needles (EED)  
ASOS 128.325

Paso Robles Municipal (PRB)  
ASOS 132.175  
Ukiah (UKI)  
ASOS 119.275

**CT**  
East Haddam/Goodspeed (42B)  
Apch\*343.650

**GA**  
Albany/Southwest Georgia Regional (ABY)  
ASOS 133.05

**KS**  
Garden City Regional (GCK)  
Non Federal Control Tower 118.15

**MA**  
Palmer Metropolitan (PMX)  
Apch\*\* 327.1

Southbridge Municipal (3B0)  
Apch\*\* 327.1

Springfield Chicopee/Westover ARB Metropolitan (CEF)  
Apch 125.35/325.8

**ME**  
Augusta State (AUG)  
ASOS 118.325

**MI**  
Flint/Bishop International (FNT)  
ASOS-3 133.15

Jackson County Regional (JXN)  
ASOS-3 127.95

Pellston Regional Airport of Emmet County (PLN)  
ASOS 119.025  
Saginaw County/H.W. Brown (HYX)  
ASOS 118.325

**MT**  
Cut Bank Municipal (CTB)  
ASOS 119.025

**NY**  
Montgomery/Orange County (MGJ)  
CTAF 122.725

Watertown International (ART)  
ASOS 133.525

**OK**  
Claremore Regional (GCM)  
AWOS-3 119.925

**TX**  
Alice International (ALI)  
ASOS 119.225  
Cotulla/LaSalle County (COT)  
ASOS 135.9

**VA**  
Richmond International (RIC)  
RTR (321-030) 126.8/398.2 (031-170)  
126.4/319.8 (171-320) 134.7/307.2

**WY**

Jackson Hole (JAC)  
AWOS-3 135.175

**CHANGED****CA**

Camarillo (CMA)  
ATIS was 119.2, now 126.025

**CT**

Bridgeport/Igor Sikorsky Memorial (BDR)  
Chester (3B9)  
Madison/Griswold (N04)  
New Haven/Tweed (HVN)  
Waterbury/Oxford (OXC)  
Apch\* was 288.1, now 343.650

**FL**

Pensacola Regional (PNS)  
Apch was 393.0, now 284.65  
was 344.4, now 285.625  
was 358.0, now 348.725  
was 309.8, now 317.475  
was 265.1, now 291.675  
was 286.0, now 269.375  
was 281.8, now 263.125  
was 398.95, now 351.825  
CD was 127.35, now 123.72

Valparaiso/Eglin AFB (VPS)  
CD was 127.7, now 135.25

**MA**

Northampton (7B2)  
Apch\*\* was 125.65, now 125.35  
was 327.1, now 325.8

Palmer Metropolitan (PMX)  
Apch\*\* was 123.95, now 119.0

Southbridge Municipal (3B0)  
Apch\*\* was 123.95, now 119.0

Springfield Chicopee/Westover ARB  
Metropolitan (CEF)  
Apch\*\* was 125.65, now 125.35  
was 327.1, now 325.8

Westfield/Barnes Municipal (BAF)  
Apch\*\* was 122.65, now 125.35  
was 327.1, now 325.8

**NY**

Calverton Naval Weapons Industrial  
Reserve (CTO)  
Apch \*was 367.2, now 343.75

East Hampton (HTO)  
Apch\* was 288.1, now 343.65/343.75

# High-Performance SWL Antennas

The award-winning Eavesdropper™ antennas include our Zap Trapper™ Electronic Gas Tube Lightning Arrestors. Receive-only design shunts damaging transients to ground at only 1/7th the voltage buildup as compared to the commonly available 200 watt transmit-type arrestors, providing maximum solid state receiver protection. Protect your investment-combine an excellent shortwave receiving antenna with the best receiver protection money can buy.



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Islip/Long Island MacArthur (ISP)  
Apch\* was 367.2, now 343.750

Montauk (MTP)  
Apch\* was 288.1, now 343.65

New York TRACON (N90)  
Apch was 319.8, now 257.65  
was 367.2, now 343.65  
was 288.1, now 343.75

Shirley/Brookhaven (HWV)  
Apch\* was 367.2, now 343.75

Westhampton Beach/The Francis S.  
Gabreski (FOK)  
Apch\* was 288.1, now 343.65/343.75

White Plains/Westchester County  
(HPN)  
Apch\* was 319.8, now 257.65

NC Goldsboro/Seymour Johnson AFB  
(GSB)  
Apch was 253.6, now 256.8  
was 255.6, now 266.8  
was 320.1, now 257.9  
was 324.3, now 326.2  
was 338.6, now 273.6  
was 363.8, now 270.8

Goldsboro/Wayne Municipal (GWW)  
Apch\*\*\* was 320.1, now 257.9  
Kenansville/Duplin County (DPL)  
Apch\*\*\* was 338.6, now 273.6

Kinston Regional Jetport at Stallings  
Field (ISO)  
Apch\*\*\* was 338.6, now 273.6  
Mount Olive Municipal (W40)  
Apch\*\*\* was 320.1, now 257.9

**OH**

Wilmington/Airborne Airpark (ILN)  
ATIS was 133.125, now 124.925

**DECOMMISSIONED/DELETED****CA**

Montague/Siskiyou County (SIY)  
AWOS 124.55

Ukiah (UKI)  
AWOS-3 134.75

**FL**

Deland Municipal/Sydney H. Taylor  
(DED)  
NDB 201 kHz

**IA**

Muscatine Municipal (MUT)  
NDB 272 kHz

**KY**

Bardstown/Samuels Field (BRY)  
NDB 248 kHz

**MT**

Cut Bank Municipal (CTB)  
AWOS 133.075

\*Approach control provided by New York TRACON.

\*\*Approach control provided by Bradley Approach

\*\*\*Approach control provided by Seymour Johnson AFB

Next month we'll resume our talk about pilot and controller talk. Until then, keep those letters and questions coming to me at "Plane Sense," *Popular Communications*, 25 Newbridge Road, Hicksville, NY 11801. ■

# THE LISTENING POST

What's Happening: International Shortwave Broadcasting Bands

## How To Catch Wales And Eritrea On Shortwave!

As of this writing Christian Voice, the group which now controls what was once Radio Australia's transmitter site at Darwin, has been doing some testing, but not according to any set schedule. The closest thing to regular activity seems to be on **17645** at around 0200. We don't know when they plan to begin regular broadcasts.

Now and then — this month, for instance — we get reports on **Radio Telefis Eireann**, the Irish broadcaster that you can't count as Ireland because it's transmitted from other venues. In a similar situation is **Wales Radio International**, which broadcasts weekly half-hour program over transmitters in England. It airs in English on Fridays from 2130–2200 on **6010** and on Saturdays from 0300–0330 on **9735** and from 1130–1200 on **17625**. Their address is Preseli Radio Productions, Pros Kairon, Crymych, Pembrokeshire SA41 3QE, Wales, United Kingdom.

A new one on the air from Bolivia is **Radio Impacto Cristiano in La Paz**. It's using the out-of-band frequency **6883.5** and airing religious programming in Spanish. The full schedule isn't known but try in the early mornings (1000 or later) or the evening hours.

There's yet another new service using South Africa's Meyerton transmitter site. **Radio Lusofonia** is a program apparently intended for listeners in Mozambique. It's on at a bad time/frequency for most North American listeners, though — 1700–1900 on **7155**. The broadcast airs only on Saturdays and Sundays in English. The address is P.O. Box 1586, Alberton 1450, South Africa.

Sweden's telecommunications authority seems to be opening up its facilities for other uses, just as any number of others are now doing. **Radio La Voz del Pueblo** is airing on **5925** from 0300 to sometime after 0330, in Spanish.

**Radio UNMEE** is a new UN radio effort for Eritrea. It is on the air Tuesdays at 1030 to 1100 on **7100** and 1100–1200 on **7175**, and on Wednesdays from 0700–0800 on both **7100** and **7175**. The



*A QSL from the World Beacon received by R.C. Watts in Kentucky.*

programs are in English, Tigrinya, Arabic, and Tigre. UNMEE is an acronym for UN Mission in Ethiopia and Eritrea. The broadcasts are via the facilities of the Voice of the Broad Masses of Eritrea.

Remember we're always in need of interesting things we can use as illustrations. That includes photos of you and your equipment, station pictures, spare QSL cards you've received, schedules, and station brochures.

Needless to say your reception logs are always wanted, too. We make every effort to use most, if not all, of the logs sent in, so don't be shy or feel yours aren't good enough. They are! Just be sure to list your logs by country and leave enough space between them so we can navigate scissors easily. Logs are cut into strips and then sorted by country, so be sure to use only one side of the paper otherwise some of your logs won't survive. Also include your last name and state abbreviation after each logging. As always, thanks so much for your continued interest and par-

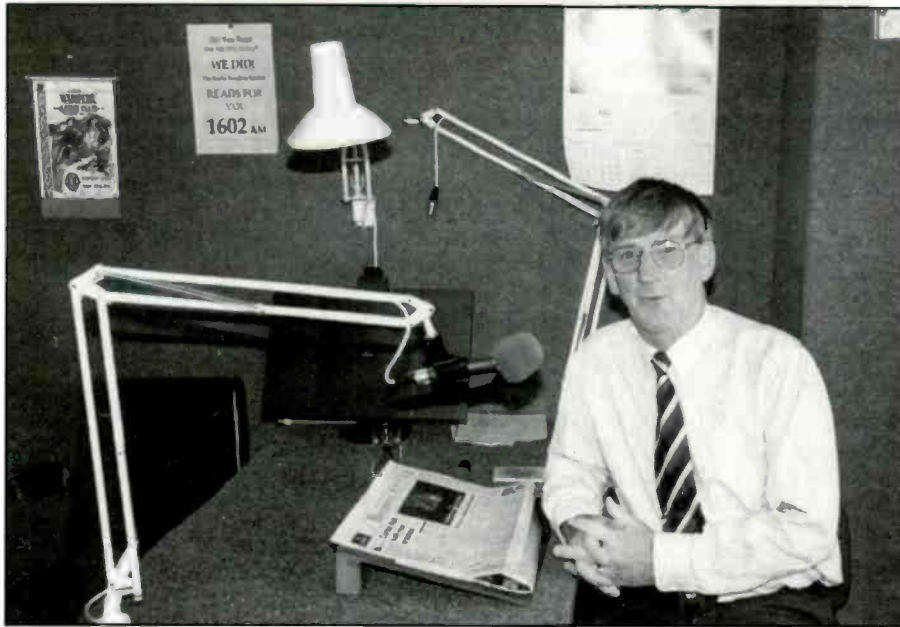
ticipation. Note that we don't focus much on logs of transmitters in the continental U.S. submitted by U.S. listeners.

This month's book winner is Jack Linonis of West Middlesex, PA, who often favors us with quality logs. Jack has received a copy of the 2001 edition of *Passport to World Band Radio*, courtesy of CRB Books. CRB specializes in providing a huge variety of books of interest to the radio hobbyist. You can get a copy of their big catalog by writing them at P.O. Box 56, Commack, NY 11725 or calling 516-543-9169 or checking their Website at [www.crbbooks.com](http://www.crbbooks.com).

Here are this month's logs. All times are in UTC, which is five hours ahead of EST, i.e. 0000 UTC equals 7 p.m. EST, 6 p.m. CST, 5 p.m. MST, and 4 p.m. PST. Double capital letters are language abbreviations (FF = French, AA = Arabic, SS = Spanish, etc.). If no language abbreviation is included the broadcast is assumed to have been in English.

**ALASKA** — KNLS. **9615** to Australia at

BY GERRY L. DEXTER



Ross Lambourne, from Auckland, a reader with the Radio Reading Service, New Zealand Radio for the Print Disabled, Inc.

0802. Starving dog teams. (Becker, WA) 1306; mountain climbing in Alaska. (Montgomery, PA) 1322. (D'Angelo, PA)

**ALBANIA**— Radio Tirana, 6115 at 0345. (Jeffery, NY) 7160 at 0251. Toy prices are too high. (Newbury, NE) 7270 in presumed Albanian at 0325 and 0415. (Brossell, WI) 9540 with news at 2134. (Miller, WA) 2228 with IS, ID. UK-US schedule and news. (Burrow, WA) Trans World Radio, 9850 in SS at 1320. (Northrup, MO)

**ALGERIA** — Radio Algiers, 15160 at 1659 with schedule and ID in EE. into SS at 1701. (Burrow, WA)

**ANTARCTICA** — Radio Nacional Arcangel San Gabriel — LRA36, 15475.6 at 2036 with talk by man (in SS), brief music at 2043, and man with sign off announcements at 2045. Poor. (D'Angelo, PA) 2041–2045, barely audible. (Montgomery, PA)

**ANGUILLA** — Caribbean Beacon/University Network/Dr. Gene Scott (three in one! gld.) 11775 at 2139. (Jeffery, NY)

**ANTIGUA** — DW relay, 11985 at 0727 in GG to Australia. (Becker, WA) BBC, 5975 at 2330. 0000, 0400, all EE. (Jeffery, NY)

**ARGENTINA** — RAE, 11710 at 0214 with news about budget vote, light jazz. (Newbury, NE) 0230 with DX program. (Smith, WA)

**ARMENIA** — Voice of Armenia, 4810 at 0350 in unid. language, variety of music some of it with a Mid-east flare/Parallel to 9965 only from 0400–0430. (Alexander, PA) 9965 at 0329 in unid. language with distinctive IS and anthem. Again at 2040 in EE with IS, anthem, ID, schedule. (Burrow, WA)

**ASCENSION ISLAND** — BBC relay to West and Central Africa, 6005 at 0259 and 17830 at 1956. (Jeffery, NY) 7105 at 0400 with ID, news in unid African language. (Brossell,

WI) 11765 to West Africa at 0730. (Becker, WA) 12095 at 0130. (MacKenzie, WA)

**AUSTRALIA** — Radio Australia, 9580 at 1300 and 1400. (Newbury, NE) 9710 to Southeast Asia at 0805. 15240 at 0702. (Becker, WA) 11650, //11660 at 1615. (Brossell, WI) 11880 with news at 1705. "Radio Nacional, heard across Australia." (Burrow, WA) 17580 at 0220. (Smith, WA) 21740 at 0021. (Jeffery, NY) 2235. (Smith, WA) 2325. (MacKenzie, CA)

**AUSTRIA** — Radio Austria Int'l, 9655 in GG at 1946. (Miller, WA) 17865 at 1638. ID and address at 1657. (Burrow, WA)

**BANGLADESH** — Bangladesh Betar, 7185 at 1240 with talk by woman, ID by woman at 1249: "You are tuned to the external service of Bangladesh" (tentative quote). Poor, with intermittent ham QRM. (D'Angelo, PA)

**BELGIUM** — Radio Vlaanderen Int'l, 9925 in DD monitored at 0739. (Becker, WA) 11985 (via Bonaire) in DD at 0429. 13660 (via Bonaire) at 2233 with "Brussels Calling." (Burrow, WA) RTBF Int'l, 9970 in FF at 0758. (Becker, WA)

**BENIN** — ORTB Parakou, 5025 at 2056. FF talks mentioning Parakou, tribal vocals. (D'Angelo, PA) 2058. Still there and better at 2113. (Montgomery, PA)

**BOLIVIA** — Radio Mosoj Chaski, 3310 at 0837 with SS talk, rustic vocals. Also noted in passing with ID at 2315. (D'Angelo, PA) Radio Movima, 4471.7 at 0950 with group vocals, man with SS ID and announcement accompanied by guitar. (D'Angelo, PA) Radio Yura, 4716.7, 2307 with continuous romantic vocals to 2318 and woman with SS talk and ID at 2318. (D'Angelo, PA) Radio San Miguel, 4926.5 at 0954 with rustic vocals,

brief SS announcements to ID by man at 1008. (D'Angelo, PA) Radio Santa Cruz, 6134.8 at 0940 with lively Latin vocal program hosted by equally lively man announcer in SS with time checks and IDs. (D'Angelo, PA)

**BOTSWANA** — Radio Botswana, 7255 at 0251 with barnyard IS, choral anthem at 0259, vern. Talk, local choral music. Weak, with unid co-channel QRM at 0300. //4820 weak. (D'Angelo, PA) VOA relay, 7340 at 0340 in unid. African language. Also 9775 at 0505 with news. (Brossell, WI) 9885 at 0424. (Newbury, NE)

**BRAZIL** — Radio Nacional Sao Gabriel da Cachoeira, 3375.1 at 0115 with Brazil pops hosted by woman, "Radio Nacional" ID at 0134. PP. (D'Angelo, PA) Radio Caiari, 4785.1, 0912 with vocal music, time checks, IDs, man in PP. (D'Angelo, PA) Radiodifusora Taubate, 4924.9, reactivated? 2256 with multiple IDs "Radio Difusora, Difusora, Difusora..." and romantic vocals. Jingle ID, man with ID and time check at 2342. (D'Angelo, PA) Radio Mundial, 4975 at 2357 with group vocals to woman with clear ID at 2359. (D'Angelo, PA) Radio Anhanguera, tentative, 4905.1 at 0254 with lots of accordion and PP talk. Three time pips at top of hour. (Montgomery, PA) Radio Capixaba, Vitoria, 4940 in PP at 0945. (Miller, WA) (This is listed for 4935 — Ed.) Radio Gaucha, Porto Alegre, 11915 in PP at 2328 with music and discussion. (Miller, WA)

**BULGARIA** — Radio Bulgaria, 7200 with news at 2230. 7400 at 0340 with "Time Out for Music." Program. (Brossell, WI) 7400 at 0034 and 0325. (Burrow, WA) 9400 at 0007. (Jeffery, NY) Off at 0359. (Smith, WA)

**CANADA** — CBC Northern Service, 9625 at 2230. (Miller, WA) CFRX, 6070 at 0801 with relay of CFRB. (Becker, WA) Radio Canada Int'l, 11990 at 0207 and 13730 at 2348. (Smith, WA)

**CHILE** — Voz Cristiana, 6070 in SS at 0737. (Becker, WA) 11690 in SS at 1700 with music, jingle with children announcing. (Burrow, WA) 15375 in SS at 0230. (Linonis, PA) 21500 in SS at 1946 and 21550 at 1548. (Jeffery, NY)

**CHINA** — China Radio Int'l, 5990 (via Cuba) at 2306, 7405 at 1500, 9570 (via Cuba) at 0121, 9730 (via French Guiana) at 0405. (Newbury, NE) 5145 at 1234 in presumed Mongolian. 7190 at 1318 in JJ. (Becker, WA) 9690 (via Spain) at 0306. (Jeffery, NY) 11675 at 1315. (Brossell, WI) 15120 (via Cuba) at 0023 in SS. (MacKenzie, CA) China National Radio (aka CPBS) — 4460 at 1142, 4850 at 1426, 5030 at 1432, 5880 at 1147, 9675 at 0810, 7200 at 1232, 7290 at 1225, 7345 at 1225, all in CC. (Becker, WA) 11960 at 0140, 15480 in CC at 0010. (MacKenzie, CA) Nei Menggu PBS, Hohot, 4525 at 1251 in CC. (Miller, WA)

**COLOMBIA** — Ondas del Meta, 4884 in SS at 0341 with talks by man, woman. (Jeffery, NY) Radio Nacional, 9635 in SS at 0055 and 0314. (Miller, WA) 0210 with lively music and excitable man announcer.

**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

(Linonis, PA) 0230 with Colombian pops. (Newbury, NE) SS announcements, IDs, Colombian music. Off at 0504 with vocal national anthem. Slight hum and distortion in their audio. (Montgomery, PA)

**COSTA RICA** — University Network/ Gene Scott, **5030** monitored at 0404. (Jeffery, NY) **6150** at 0352. (Paszkiwicz, WI) Faro del Caribe/TIFC. **5055** heard at 0315 with SS ID, music. (Brossell, WI) RFPI at 0001 on **15049**. (Smith, WA)

**CROATIA** — Croatian Radio, **9830** at 0756. ID 0800. QRM from Radio Japan on 9835. (Becker, WA)

**CUBA** — Radio Havana Cuba, **6000** at 2322 with DX program and **9820** at 0248. (Smith, WA) Radio Rebelde, **5025** in SS at 0359 with ID, music. (Jeffery, NY)

**CYPRUS** — BBC relay, **9875** in presumed Romanian at 0630 with EE/Romanian lesson. **12095** at 0628 and **15325** in AA at 0706. (Becker, WA) **15185** in AA at 1645. (Ziegner, MA) **21740** to east and southern Africa at 1537. (Jeffery, NY)

**CZECHOSLAVAKIA** — Radio Prague, **7345** at 0205. (Weronka, NC) 0345 in presumed Czech and 0400 in EE. (Brossell, WI) IS, ID and off at 0426. (Burrow, WA)

**DENMARK** — Radio Denmark, **9590** via Norway at 0636 in DD. (Becker, WA) **9945** via Norway at 0450 in presumed Danish. (Brossell, WI)

**DOMINICAN REPUBLIC** — Radio Barahona, **4898.8** at 0428 with lively vocals, IDs such as "Radio Barahona Internacional" between each selection. (D'Angelo, PA) Radio Villa, **4960** at 0353 in SS. Music and man announcer. (Jeffery, NY)

**ECUADOR** — HCJB, **9745** at 0100, **11840** at 0150. (MacKenzie, CA) 0220 and 0500. (Newbury, NE) 0118. (Smith, WA) **15115** at 1330. (Northrup, MO) **17660** at 1914. (Jeffery, NY) Radio Quito, **4919** at 0347 in SS with music. Fading. (Jeffery, NY) 0915 with music, all SS. (Barton, NM) Escuelas

Radiofonicas. (tentative) **5009.8** at 0050 with long talks, possible ID at 0103 and again at 0132, when I thought I heard "Radiofonicas" mentioned. Others heard the Dominican here so maybe not Ecuador. (D'Angelo, PA) 0300 with ID, music and announcements in SS. (Brossell, WI) Radio Oriental, **4800.8** at 2327 with ID, an interesting combination of music — couple almost rap-like. Usual sweeping QRM as well as a het from an unid. (Montgomery, PA) Radio Centinela del Sur, **4770** at 1112 with Latin vocals and long-talking man announcer with TC, ID, general chitchat. (D'Angelo, PA)

**EGYPT** — Radio Cairo, **9800** at 1325 in AA. (Northrup, MO) **9855** at 0515 with Holy Koran. (Brossell, WI) **9900** in AA at 2219. (Miller, WA) 2200 and 2305. (Newbury, NE) 2131. (Burrow, WA) **12050** in AA at 0620. (Becker, WA) **15210** at 2000 with EE news and talks. Strong but muddy modulation. (Linonis, PA)

**ENGLAND** — BBC in CC via Vladivostok, Russia at 1313. (Becker, WA) **9590** via USA at 2230 and 0000. (Newbury, NE) **9740** at 1330. (Northrup, MO)

**EQUATORIAL GUINEA** — Radio Nacional, Bata, **5003.4**, 2003 with man and woman with SS news, talk with brief instrumental segments between. (D'Angelo, PA) 2127 with long SS talks, // **6249**. (Montgomery, PA) Radio Nacional, Malabo, **6249.4**, 2024 with long SS talk by man, ID, highlife music. Fair but clear using LSB mode. (D'Angelo, PA) 2205 to 2305 close. Local choral music. Off with national anthem. Best in LSB mode. (Alexander, PA)

**ERITREA** — Voice of the Tigray Revolution, **5500** at 0403 with news, short talks and flute music, other vocal segments. // **6315** suffered from ute QRM. (D'Angelo, PA) (Non-EE, gld)

**ETHIOPIA** — Radio Fana, **6210** monitored at 0400 with ID, presumed news in unid. language. (Brossell, WI) **9640** at 0326 sign-on. Music opening followed by quick ID by woman, program previews, ID by man, news. (D'Angelo, PA)

**FINLAND** — YLE/Radio Finland, **9580** in Finnish at 0050. **15440** at 1549. (Miller, WA) **11690** in unid. language at 0055. **12035** in EE at 0135. (MacKenzie, CA) **15400** at 1345. (Weronka, NC)

**FRANCE** — Radio France Int'l, **7135** in FF at 0315. (Brossell, WI) **11665** in SS/FF at 0103. (MacKenzie, CA) **11995** via Gabon at 2132 in FF. (Miller, WA) **11995** to Africa (via Gabon) at 1600–1656. (Silvi, OH) **12075** via Russia in FF at 2300. (Newbury, NE) **17620** at 1400. (Weronka, NC) **17850** at 1627. (Barton, NM)

**GABON** — Africa Number One, **9580** in FF at 2223. (Miller, WA) 0638. And **15475** at 0712. (Becker, WA) 1645. (Brossell, WI) 1700. (Brossell, WI)

**GERMANY** — Deutsche Welle, 6100 via Canada in GG at 0550, **9545** in GG at 0608. (Newbury, NE) **6145** in EE at 0111. (Smith, WA) **9535** (via Canada) at 0332. (Jeffery, NY)

**9700** (via Antigua) at 0319 and **15140** at 2322. (Miller, WA) **11795** in GG at 0728. (Becker, WA) **13780** in GG at 1434. (Barton, NM) Mitteldeutscher Rundfunk, **6085** in GG at 0215 with weather for Bavaria, TC, and music. (Paszkiwicz, WI) Good News Radio (HQ in Texas, Gld) 15105 via Julich, 1608 with EE contemporary Christian music, talk. (Paszkiwicz, WI)

**GHANA** — Radio Ghana, **4915** at 2200 with news; at 2210: "That's the end of the news from Radio Ghana." (Brossell, WI)

**GREECE** — VOA relay, **15205** at 1506. (Jeffery, NY) Voice of Greece, **7475**, Greek ID at 0259, into EE news. Greek music at 0307. **9420** at 1710 with news, interview in EE. (Burrow, WA) 0557 with ID "This is Athens, Voice of Greece." Time pips at 0600. ID in Greek, web and email addresses in Greek. News in EE at 0611. (Smith, WA) 0752 in Greek. (Becker, WA) **17705** via USA at 1915. (Barton, NM) 2105. (Smith, WA)

**GUAM** — AFRTS, **5765** at 1620 in USB. (Miller, WA) Trans World Radio/KTWR, **15195** in unid. language at 2200. ID and off at 2230. (Brossell, WI)

**GUATEMALA** — Radio Verdad, **4052** in SS at 1111 with instrumental music, talk, ID. (Paszkiwicz, WI) La Voz de Nahuala, **3360** at 0310 with SS music and announcements. (Brossell, WI) 0356 with SS vocals, announcements, marimbas, time check, ID. (Paszkiwicz, WI) Radio Cultural/TGNA, **3300**, religious program in EE at 0340. (Brossell, WI) 0621 in SS. (Miller, WA) 0654 in SS. (Becker, WA)

**HAWAII** — WWVH, **5000** at 1259 with ID and address in Hawaii. (Becker, WA) **15000** at 1656 with woman giving time. (Newbury, NE) KWHR, **17510** at 2019. (Becker, WA)

**HONDURAS** — Radio Litoral, **4832.1**, 1201 sign-on with instrumental music (open carrier noted around 1158). Then multiple IDs during extensive sign on announcements with different announcers. Series of religious vocals at 1205 and another block of IDs at 1214. (D'Angelo, PA) Radio Luz y Vida, **3250** at 0400 with EE program "Unshackled." (Paszkiwicz, WI) La Voz Evangelica, **4819** in SS at 0329. (Jeffery, NY)

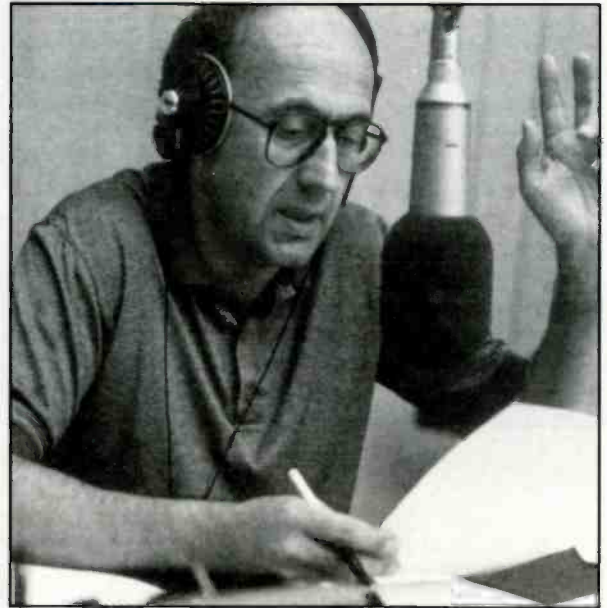
**HUNGARY** — Radio Budapest, **3975** at 2230 with news in HH, then a short story segment. (Burgess, NC) **9833** at 0333 with news, ID, feature. (Burrow, WA) 0345 with DX program. (Brossell, WI)

**ICELAND** — AFRTS, **10320** at 0245 with US pops. Also took requests via e-mail. (Linonis, PA)

**INDONESIA** — Voice of Indonesia, **9525** at 2003 with ID, program contents, news. (Burrow, WA) **1825** in GG. **15125** at 1458 and 2254. (Miller, WA) Radio Republik Indonesia — Makassar, **4753.5v** at 2151 with talk by man in II, short music segment and vocal, followed by Song of the Coconut Islands (SCI), RRI ID at 2200 and Jakarta news. (D'Angelo, PA) RRI Merauke, **3905** at 1152 with continuous vocals until SCI, clear ID and Jakarta



A couple of satellite stations used at Vatican Radio.



Juan Carlos Moreno of the Spanish program Swiss Radio International reads the news.

news. Nice program of vocals with local "RRI Merauke" ID at 1222 after the news. (D'Angelo, PA) RRI Ujung Pandang, **4753.3**, 2134 with mix of talk and music to SCI at 2159 and Jakarta news. (D'Angelo, PA) RRI Jambi, **4925** at 2220 with continuous talk by man but no ID at the bottom of the hour. Again at 1144-1203 with vocals, SCI, RRI ID and Jakarta news. (D'Angelo, PA) RRI Biak, **6153.7**, 1240 with continuous easy vocals until news at top of hour. No SCI — music ran right into the news feed. (D'Angelo, PA)

**INDIA** — All India Radio, Delhi, **3365** at 1220. Talk by woman until 5 + 1 time pips and AIR ID, then woman with news. **4860** at 1225 with program previews in EE, time pips and woman with news in EE, followed by talks in Hindi. (D'Angelo, PA) **15075** from 1000-1100 close. Back at 1112 and into listed Tamil at 1115. (Alexander, PA) AIR Port Blair (presumed) **4760** at 1152 with Hindi song, discussion by man and woman, more Hindi music. (D'Angelo, PA) AIR Calcutta, **4820** in Hindi with Indian music at 1406. (Miller, WA) AIR Kohima, **4850** at 1230 with EE news. // to Delhi-**4860**. (D'Angelo, PA) AIR Chennai, 1224 with Hindi vocals, talk by woman, 3 + 1 time pips and sign on "This is All India Radio. The news, read by..." (D'Angelo, PA) AIR Thiruvananthapuram, **5010** at 0035 with EE news, ID at 0040, into Hindi vocals and instrumentals. (D'Angelo, PA) 0035-0100 with talks and music with flutes, woman with talks in EE and mentions of India several times. Back into Hindi at

0059. (Montgomery, PA) AIR (various sites) **10220** at 0240 in presumed Hindi or Urdu. (Linonis, PA) AIR Bangalore, **11585** at 1230 beamed to Pakistan in possible Sindhi. (Ziegner, MA) 1320 in presumed Hindi. (Brossell, WI) **11620** between 0100-0300. I've been trying for this for 31 years! (Orzel, CA) (*Persistence pays!* — Ed.) 1930 in EE. (Miller, WA) **13710**. // **11620** at 1320 with news, music, ID. (Alexander, PA) **13750** at 1905. (Burrow, WA)

**IRAN** — Voice of the Islamic Republic of Iran, **7115** at 1555 in EE. (Burrow, WA) 7260, // **9022** in FF at 0010. (Brossell, WI) **11710** at 0050 in AA. (MacKenzie, CA) 2205 with Holy Koran. (Brossell, WI)

**IRAQ** — Radio Baghdad (presumed) **11785v** at 0220 in AA with AA music and possible commentary by man. (Linonis, PA)

**IRELAND** — Radio Telefis Eireann, **13640** (via Canada) and **21630** (via Ascension) at 1830 with ID, Irish and international news. (Burrow, WA)

**ISRAEL** — Kol Israel, **6280** (new) at 0500-0515 with news, weather, ID. Ex-11605. Parallel **9435** and **17545**. Also at 2000-2015. (Alexander, PA) 0500 with time pips, IS, ID, news. (Burrow, WA) **6280//9435** at 0500. (Burrow, WA) **7545** at 0355 with pop songs in Hebrew, "Shalom, bye-bye" at 0359, ID at 0400. (Brossell, WI) **11585** in HH at 0105. (MacKenzie, CA) **15760//17535** to Europe and North America at 0710. (Burrow, WA) Galei Zahel, **6973** at 0258 with news in HH, music. (Paszkwicz, WI)

**ITALY** — RAI, **9675** at 0050 with IS, ID, schedule and news. **9760** at 1934 with IS, ID, news. (Burrow, WA) **11800** in II at 0035. // **6010 and 9675**. (MacKenzie, CA) 0050 with news. (Weronka, NC) **15250** at 1905 in II with IS and sign off at 1906. (Miller, WA) Radio Wonderful, **7120.1** (via Italian Radio Relay Service) at 2303. Mostly in German but gave their address in EE. Mostly techno numbers, ID at 2305. Address given as P.O. Box 520112, D44207 Dortmund, Germany. (D'Angelo, CA) AFRTS — Sicily, **10940.5** USB at 0230 with stock report and relay of CBS Evening News (?) (Linonis, PA) 0340 with "Travel Radio." "This is the Armed Forces Network" ID at 0358 and news. (Brossell, WI)

**JAPAN** — JYJ time station at 0741 and 1219. (Becker, WA) (*Word is that this station has since been closed down* — Ed.) Radio Japan/NHK, **5775//6145** at 0024. Must be a spur. (Montgomery, PA) **6120** closing in JJ via Canada at 1159. **6145** in RR to West Asia at 0804. Also **9835** in JJ at 0800 to North America. (Becker, WA) **9505** at 1405. **17835** at 0102. (Newbury, NE) **9750** to East Asia at 1008. (Barton, NM) **11815** in SS/JJ at 0030. **17710** via French Guiana at 2345 in FF. **17810** in CC at 2338. (MacKenzie, CA) **11885** at 2120. (Miller, WA) **11915** via Gabon in GG to Europe at 0611. (Becker, WA) **17825** to South America at 0300. (Silvi, OH) 0301. (Jeffery, NY) NSB/Radio Tampa, **3925** at 0746. **6055** at 0718 and 1432. **6115** at 0719 with **6055, 6115** not in parallel. **9545//6055** at



*The faces behind the scenes at Radio Netherlands.*

0805. (Becker, WA) **3925 and 3945** at 1247. (Miller, WA) **6055** at 0830. (Barton, NM) (*All in JJ — Ed.*)

**JORDAN** — Radio Jordan, **11930** at 0142 in AA. (MacKenzie, CA) **11960** in AA at 0613. (Becker, WA) **17680** at 1458. (Weronka, NC)

**KAZAKSTAN** — Kazak Radio, tentative, **11590** at 1100–1230 in probable colloquial Kazak but also some CC. Pops and discussion. (Ziegner, MA)

**KUWAIT** — Radio Kuwait, **9695** in AA at 2306. Also **15110** in AA at 1548. (Miller, WA) **11675** at 0100 in AA. (MacKenzie, CA) AA at 0455. (Brossell, WI) **11990** at 1900. ID 1930 and teachings of Islam. ID and frequencies at 1945. (Burrow, WA) 2020 with US pops, "alternative" rock. (Linonis, PA) 2033 with techno-dance. (Burgess, NC) **15110** in AA at 1325. (Northrup, MO) **15505** in AA at 0708. (Miller, WA)

**LESOTHO** — Radio Lesotho, **4800** at 2124 with talks and music. Awful "swisher" QRM. Orchestral national anthem at 2201 and off at 2202. (D'Angelo, PA)

**LITHUANIA** — Radio Vilnius, **6120** at 0030 with ID, news. (Jeffery, NY) **6120** and new **9875** at 0031. Area news and request for reports on **9875**. (Burrow, WA) (*Word is that Julich is no longer in use. Rather, the transmissions are now direct from their site at Siktunai — Ed.*)

**LIBERIA** — ELWA, **4760** at 2121–2203 close. Choir, short religious talks. ID and sign off announcements at 2201 followed by orchestral national anthem. (D'Angelo, PA)

**LIBYA** — Voice of Africa/Radio Jamahiriya, **17725** at 2028 in EE with signature music. ID, news, signature music and back into AA by 2047. (Burrow, WA)

**MALAYSIA** — Radio Malaysia, **4845** at 1407 in unid. language. (Miller, WA) **7295** at 1646 with "Midnight Magic" music program

and ID as "Radio Four." Time pips at 1700 (announced as 0100 local). (Burrow, WA)

**MAURITANIA** — Radio Mauritanie, **4845** at 0022 in AA. (Miller, WA) 0115–0435 plus with AA talks, Koran, radio play. On late. (Alexander, PA) 0335 in AA. (Jeffery, NY) 0642 with call to prayer. (Becker, WA) 2215 with Holy Koran. (Brossell, WI)

**MEXICO** — Radio Educacion, **6185** with music at 0805. (Becker, WA) Radio Mexico Int'l, **9705** in SS at 0010. (Jeffery, NY) **11770** in SS at 2245. EE ID "You are listening to Radio Mexico International" at 2258. (Brossell, WI)

**MOLDOVA** — Voice of Russia via Moldova, **7125** at 0309 with news, ID, "Moscow Mailbag." (Jeffery, NY) 0400 with news. Also **7180** at 0315. (Brossell, WI) 0414. (Weronka, NC) 1844. (Miller, WA)

**MONGOLIA** — Voice of Mongolia, **12015** at 2000 with IS, ID, schedule and news. (Burrow, WA)

**MONACO** — Trans World Radio, **9870** at 0801 with the program "Rendezvous." (Becker, WA)

**MOROCCO** — RTV Marocaine, **7185** in AA at 0320 and 0410. **15345** in AA at 1640. (Brossell, WI) 1711 in AA. (Barton, NM) 2024. (Becker, WA) VOA relay, **5995** at 0657. (Newbury, NE) **15240** at 2026. (Becker, WA)

**MYANMAR** (Burma) — Radio Myanmar, **4725** at 1123 with Greensleeves, woman ID at 1129, music interlude and back to woman with what sounded like a newscast. (Montgomery, PA) **5985** in presumed Burmese at 1306. (Becker, WA) **1424** in unid. language, with C&W, national anthem. (Miller, WA)

**NEPAL** — Radio Nepal, **5005** at 1140 with talk about programs for their Saturday EE broadcast. //7165. Frequency details, ID by woman then music to 1144 when the language changed. Continuous music to EE lesson #15.

(Montgomery, PA) 1203 with woman talking to a class of children in EE. ID and time pips at 1215. (D'Angelo, PA)

**NETHERLANDS** — Radio Netherlands, **9860** (via Madagascar) in DD at 0350. (Brossell, WI) **9895** at 1917. (Miller, WA) 0740. Becker, WA) **15560** via Madagascar in DD at 0005. (MacKenzie, CA)

**NETHERLANDS ANTILLES** — Radio Netherlands Bonaire relay, on **6165** with news at 0430. (Weronka, NC) **9590** at 0430. (Newbury, NE) **9845** at 0118. (MacKenzie, CA)

**NEW ZEALAND** — Radio New Zealand, **11725** at 1715 with pops, weather for the Pacific and ID "This is Radio National." (Brossell, WI) **15120** heard at 1820 with news, music and into Maori. (Miller, WA) **17675** at 0001 with news, weather and "Cadenza." (Jeffery, NY)

**NIGERIA** — Voice of Nigeria, **7255** at 0537. (Newbury, NE) 0634 with news, ID 0635 and back to news. (Burrow, WA)

**NORTH KOREA** — Radio Pyongyang, **6520//9975** at 1658 in EE, ending EE with IS, ID, anthem and into KK at 1700. (Burrow, WA) **6575** in RR at 0745 and KK at 0807. **7580** at 1219 and **9975** in RR at 0731. (Becker, WA) **9385//11710** at 1900 with IS, ID, news. (Burrow, WA) **11710.05** at 0000 with EE news, comment, music, IDs. //11460.24, **13760.15, 15180.18**. All frequencies had poor audio and were varying 50-50 Hertz. (Alexander, PA) **15180** at 0030. (Weronka, NC) Korean Central Broadcasting System, **9665** at 0800 in KK. (Becker, WA)

**NORWAY** — Radio Norway, **9590** in NN at 0207. (Miller, WA) **18950** at 1615 in NN. (Barton, NM)

**OMAN** — Radio Sultanate of Oman, **15355** at 0259 in EE. (Burrow, WA)

**PAKISTAN** — Radio Pakistan, **11570//15100** at 1557 in EE with IS, time pips, "Time is 9 p.m.," ID and news. (Burrow, WA)

**PAPUA NEW GUINEA** — NBC, **4890** with EE and rock at 1131. (Miller, WA) 1254. (Becker, WA) 1330 with U.S. pops. (Brossell, WI) Radio Milne Bay, **3365** at 1040 with talks and music, IS at top of hour. (Montgomery, PA) Group island vocals, man announcer in EE and Pidgin. Off at 1200. (D'Angelo, PA) Radio West New Britain, **3235** at 1209 with island vocals, man announcer. (D'Angelo, PA) Radio Manus, **3315** at 1134 with pop vocals, off at 1200 with ID and birds chirping. (D'Angelo, PA) Radio Simbu, **3355** at 1126 with group island vocals, man announcer in EE and Pidgin. Off at 1200. (D'Angelo, PA) Radio East New Britain, **3385** at 1118 with island vocals, commercials, and news at 1200. (D'Angelo, PA)

**PARAGUAY** — Radio Nacional, **9735** in SS at 0151. (Miller, WA)

**PERU** — (Since we have quite a few of these and to conserve space, make it a given that all Peruvians use Spanish and mostly play local music) Radiodifusora Commercial Naranjos, **4300** at 1040. Sleepy-sounding announcer. (D'Angelo, PA) Radio Horizonte,



4534.2 at 1052, including IDs and TCs. (D'Angelo, PA) Radio San Francisco Solano, 4750.1, 1035 with occasional TCs given over tunes. (D'Angelo, PA) 1038, with time check at 1042 and off suddenly until 1045. (Montgomery, PA) Radio Huanta 2000, 4752.8v, 1006 with birthday song. (D'Angelo, PA) Radio Comas, 4881.1 at 1004 with IDs, time checks, announcements. (D'Angelo, PA) Radio Madre de Dios, 4950.1 at 2252 with woman announcer ID and soft talk. (D'Angelo, PA) Radio Cultural Anuata, 4955 at 1012 choral vocals and man ID, piano. (D'Angelo, PA) Radio del Pacifico, 4975.1 at 0845 with long talk, ID. (D'Angelo, PA) Radio Andina, 4995.6 at 2306 including ID, time checks and announcements. (D'Angelo, PA) La Voz de Bolivar, 5460.7 at 0150 with occasional ID and chatter between songs. (D'Angelo, PA) La Voz del Campesino, 6956.57 at 0020. (Alexander, PA) Radiodifusora Huancabamba, 6536.02 at 0020. (Alexander, PA) Radio Ondas del Rio Mayo, 6797.6 at 0020. (Alexander, PA) Radio Andina, 6673.54 at 0025. (Alexander, PA) 0213 with ID. Suddenly off at 0220. (Montgomery, PA) Radio Chota, 4890 at 0230 with flutes, echo announcements. (Paszkiwicz, WI)

**PHILIPPINES** — VOA relay, 7215 in Indonesian. EE ID at 1230 and into Lao. (Becker, WA) 9855 in RR at 0936. (Barton, NM) 11830 in CC at 0015. 17820 at 2337. (MacKenzie, CA) 0042. (Jeffery, NY) Radio Pilipinas, 15190 at 1856 with "In Focus Today" with various features and frequent IDs. ID and sign-off announcements at 1929 cut in mid-sentence. Fair, with //11890 not heard and //11730 poor. (D'Angelo, PA) 1900 with music and ID. "Philippines Today" at 1905. (Burrow, WA) Radio Veritas Asia, 11820 at 2300 "Radio Veritas Asia now takes to the air." Into unid. language. (Brossell, WI) 15335 at 0112 with Bengali program, ID at 0118 and 0124 with address, trumpet fanfare and woman with EE ID. (D'Angelo, PA) 0200 with easy listening music. (Paszkiwicz, WI)

**PORTUGAL** — RDP, 9795 in PP monitored at 0812. (Becker, WA) 11675 in PP at (0644. (Newbury, NE)

**POLAND** — Radio Polonia, 11820 at 1308 with talk program. Poor but clearly audible over static. (Jeffery, NY)

**PUERTO RICO** — AFRTS, 6458.5 USB at 2329 with sports. (Jeffery, NY)

**QATAR** — Qatar Broadcasting Service, 7210 in AA at 0410; ID 0415. (Brossell, WI)

**ROMANIA** — Radio Romania Int'l, 9570 at 0412 with listener contest, address, ID. 11830 at 0602 with news. (Burrow, WA) 0236 with talk on coffee. (Weronka, NC) 15105 at 2259. (Smith, WA) 17775 at 1120 in SS. (Ziegner, MA)

**RUSSIA** — Radio Samordinka, 4885 at 1308 with RR discussion. (Miller, WA) IBRA Radio, 5985 via Petropavlovsk in CC at 1237. (Becker, WA) Radio Rossii, 9720 at 0803, 9860 to Europe/N. America at 0632. 12060 at 0622, //11990 (Samara) (Becker, WA) 11840

at 1908. (Burrow, WA) 12045 at 1325. (Brossell, WI) (*All in RR — Ed.*) Voice of Russia, 6145 from Khaabarbarovsk at 1201, //6170 — Vladivostok. (Becker, WA) 9965 in SS at 0110. (MacKenzie, CA) 9890 at 2100. (Newbury, NE) 13665 at 0209 and 0430. (Smith, WA) 12045 at 1424 in probably Tajik. (Ziegner, MA)

**RWANDA** — Radio Rwanda, on 6055 at 2059 with woman EE ID, frequency, and closing announcements "We have come to the end of our program. We will meet again tomorrow morning." Off with orchestra national anthem. (D'Angelo, PA) Deutsche Welle relay, 11785 in GG at 0043 and 15105 in GG at 0027. (MacKenzie, CA) 15105 in GG at 2225. (Brossell, WI) 2230. Also 17860 at 2300. (Newbury, NE) 17835 at 2101 with EE news. (Jeffery, NY)

**SAO TOME** — VOA relay, 4950 at 2114 in FF to 2129 sign-off in FF/EE. (D'Angelo, PA) 11775 at 1953 in FF. (Miller, WA)

**SAUDI ARABIA** — Broadcasting Service of the Kingdom, 15435 monitored at 1645 in AA. "Islamia" mentioned several times. (Brossell, WI)

**SEYCHELLES** — Far East Broadcasting Assn., 9810 at 1250 with Pacific news and then off. (Northrup, MO) 11885 at 0346. Program in specialized EE discussing sex and violence in American TV. Program ended with mention of website to get a program script. At 0359 woman in unid. language with ID and address in Kenya. Off with "What a

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Friend We Have in Jesus" IS. (D'Angelo, PA) BBC relay, 9630 at 1957. (D'Angelo, PA)

**SIERRA LEONE** — Sierra Leone Broadcasting Service, on 3316 at 2139 with group highlife vocals, happy birthday greetings to listeners, ID, apparent news at 2200. (D'Angelo, PA)

**SINGAPORE** — BBC relay, 9740 at 1500, 11955 at 2340 and 15360 at 0010. (Jeffery, NY)

**SLOVAKIA** — Radio Slovakia Int'l, 7345 monitored at 1926 with IS, ID, news at 1930. (Burrow, WA)

**SOMALIA** — Radio Banaadir, tentative, 7070 at 1953 with music, man with presumed ID at 1959. Reasonable signal, but all sorts of noise, including possible jamming. (D'Angelo, PA)

**SOUTH AFRICA** — South African Broadcasting Service, 7185 in presumed Afrikaans at 0505. (Brossell, WI) Channel Africa, 9525 at 1923 with news, drums IS. (Miller, WA) 0318 with news. (Jeffery, NY) 1609. Also 17870 at 1706. (Burrow, WA) 15215 at 0558 sign on with bird IS, ID. (Newbury, NE) BBC relay, 11765 at 0335. (Brossell, WI) Trans World Radio, 9510 at 1905 in unid. language. Religious talk. (Miller, WA) 11710 at 1628 with IS, ID "You are tuned to the international voice of Trans World Radio." Then into African dialect. (Also heard at 0330 on 7215 in unid. language) (Brossell, WI) World Beacon, 11640 at 2030 with sermon. (Linonis, PA) 2128. (Miller, WA)

**SOUTH KOREA** — Radio Korea Int'l,

3975 at 2203 with news. (Montgomery, PA) 5975 at 1604 with news, ID. (Burrow, WA) 9570 at 0809. (Becker, WA) 9870 with IS at 1325. (Northrup, MO) 15575 at 0000 in KK. (MacKenzie, CA) 0257 with times and frequencies. (Newbury, NE)

**SPAIN** — Radio Exterior de Espana, 3210 via Costa Rica with DX program at 0624. (Miller, WA) 6055 at 0417. 9620 in SS at 2310. (Newbury, NE) 0458. (Burrow, WA) 0537. (Barton, NM) 0530. And 15110 at 2139 in SS. (Smith, WA) 2028 in SS. (Becker, WA)

**SRI LANKA** — Sri Lanka Broadcasting Corp., 9770 at 0030 with vocals, time pips, announcements. (Paszkwicz, WI) 11905 at 0045 in unid. language. (Miller, WA) Deutsche Welle relay, 11965 in GG at 0137 and 17860 at 2335 in GG. (MacKenzie, CA) VOA relay, 9645 at 1630. (Paszkwicz, WI)

**SWAZILAND** — Trans World Radio, 9525 at 1950 with Bible lesson in FF. (Miller, WA)

**SWITZERLAND** — Swiss Radio Int'l, 9905 via French Guiana monitored at 0115. (MacKenzie, CA) 0124. (Smith, WA) 0322. (Miller, WA) 0421. (Newbury, NE) 11660 via French Guiana with "Sounds Good" program at 2345. (Brossell, WI) 12010 via Singapore at 1510 in GG. (Miller, WA) 15185 at 1440. (Newbury, NE)

**SWEDEN** — Radio Sweden, 9495 in SS at 0321. (Miller, WA)

**SYRIA** — Radio Damascus, 12085 at 1230 with variety program in AA. (Ziegner, MA)

**TAIWAN** — Radio Taipei Int'l, 7130 at

1234. (Becker, WA) 1240 with program on winter weather in Taiwan. (Brossell, WI) 9610.06 monitored at 1200-1300 with news, ID. "Let's Learn Chinese." //7130. (Alexander, PA) 15440 via WYFR in CC at 0015. (MacKenzie, CA)

**TANZANIA** (Zanzibar) — Radio Tanzania, 11734 at 1913 in unid. language. (Paszkwicz, WI) 1942 with AA prayers. (Miller, WA)

**THAILAND** — Radio Thailand, 9535 at 1900 with ID, news, features. (Burrow, WA) 9810 at 1230 with news, ID. Off at 1259. (Alexander, PA) 13695 at 0035 with news. (Jeffery, NY) VOA Relay, 11720 at 1907 with music requests. (D'Angelo, PA) BBC relay, 7245 in CC at 1316. (Becker, WA) 15280 at 0000. (Jeffery, NY)

**TOGO** — Radio Lome, 5047 at 0458 with IS, national anthem and FF sign-on with "Ici Lome. Radiodiffusion Television Togolaise." Also at 2215. (Brossell, WI)

**TUNISIA** — RTV Tunisienne, 7110 in AA at 2225 and 0405. Also 7275 at 0340. (Brossell, WI) 12005 in AA at 2015. (Linonis, PA)

**TURKEY** — Voice of Turkey, 7300 in TT at 0330 and 0420. 15350 at 1640 (Brossell, WI) 9445 at 2321. (Smith, WA) 0753. (Becker, WA) 0306 in EE and 9695 in EE at 2306 (Miller, WA) 9525 at 2130 in EE. (Burrow, WA)

**UGANDA** — Radio Uganda, presumed, 4976 at 0332 with same Mannheim Steamroller tune over and over and over.

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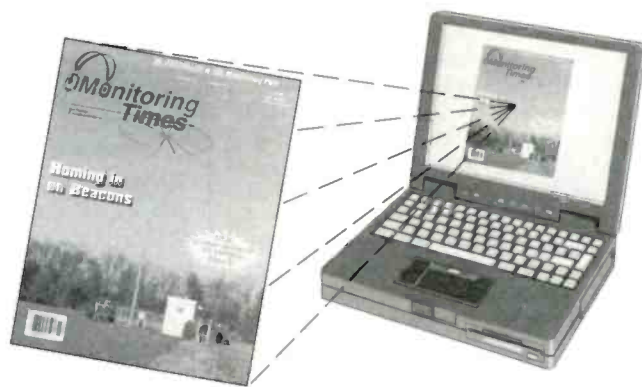
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(D'Angelo, PA) 0425 with highlife, announcements in local language and ID in EE at 0430. (Brossell, WI)

**UKRAINE** — Radio Ukraine Int'l, 9385 monitored at 0400 with IS, ID, news. (Burrow, WA) 0100-0200 with news, commentary, features. 9610 at 0400 with IS, ID, news, comment, better on //9385, 15520 at 1200 with news, folk music, ID. (Alexander, PA) 12045//12055 at 1300 with ID and e-mail address. (Brossell, WI)

**UNITED ARAB EMIRATES** — UAE Radio, Dubai, 11770 in AA at 0048. (MacKenzie, CA) 13675 with Mideast music at 1415. (Barton, NM) 1609 with Moslem history, theology, music, news, ID. Into AA at 1632. (Burrow, WA) 15395 in AA at 1645. (Brossell, WI)

**UZBEKISTAN** — Radio Tashkent, 5060 monitored at 1200 with news, comment, ID, IS at 1230 and into listed Urdu. Better on //5975, 6025, 9715 (best). 9715 at 1330 sign on with IS, news, comment. Barely audible on //5975. (Alexander, PA) 9715 at 1332, poor. (Jeffrey, NY)

**VANUATU** — Radio Vanuatu, 4960 at 1111 with talk including final ID and close-down announcements prior to orchestral national anthem. Off at 1117. (D'Angelo, PA)

**VATICAN** — Vatican Radio, 6205.5 at 1245-1345 off. Religious programming in unid language, IS at 1300. (Alexander, PA) 9605 ending EE at 0300, into H. (Smith, WA) 9645 in AA at 0510. (Brossell, WI) 11625 at 2027. (Burgess, NC) 15595 at 1714, FF into EE. Also 13675//15235 at 1603. (Burrow, WA)

**VIETNAM** — Voice of Vietnam, 5925 at 1422 in VV. 9730 at 1910 in EE. (Miller, WA) 9730 at 1614. (Burrow, WA) 12020 at 1245 with news, music, ID. (Brossell, WI)

**VENEZUELA** — Radio Amazonas, 4939.6 in SS with ballads, announcements at 0347. (Paszkiwicz, WI) Ecos del Torbes, 4980 in SS at 0400. (Newbury, NE)

**YEMEN** — Republic of Yemen Radio, 9780 in AA excellent at 0515. (Brossell, WI)

Wow-eee, boys and girls!! Shout thanks from all the rooftops to the following that really did a job this month: Pete Becker, Clarkson, WA; Bruce R. Burrow, Snoqualmie, WA; Rick Barton, Phoenix, AZ (listening in NM); David Jeffrey, Niagara Falls, NY; Mike Miller, Issaquah, WA; Jack Linonis, Hermitage, PA; Dean Burgess, Manchester, MA; David W. Weronka, Benson, NC; Richard D'Angelo, Wyomissing, PA; Ed Newbury, Kimball, NE; Adam Smith, Federal Way, WA; Stewart MacKenzie, Huntington Beach, CA; Robert Brossell, Pewaukee, WA; Brian Alexander, Mechanicsburg, PA; Lee Silvi, Mentor, OH; Robert Montgomery, Levittown, PA; Mark Northrup, Gladstone, MO; Joe Orzel, Salinas, CA, and Sheryl Paszkiwicz, Manitowoc, WI. Thanks to each of you!

Until next month, good listening! ■

# OUR readers SPEAK OUT...

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

## Learning Something From The Radio Experts

Dear Editor:

I read Gordon West's "Radio Resources" back in September 2000 titled "Going Mobile On HF — Part 4: Debugging The Noise." Right off the bat he comments that "your 12 volts is coming directly from the battery. Red goes to battery positive and black to battery negative. 'Never' use the vehicle chassis as a battery negative return."

Gordon is not correct in his uniform statement to never use the chassis. The chassis/frame of a standard 12 volt vehicle with a negative ground situation is going to be grounded directly to the negative post, as is the engine block itself. Almost 100 percent of the time noise from alternators, spark plugs, and other ticks and whines come from the creation of a ground loop. If you put your positive and negative cables from your ham gear to the battery, you just built yourself a ground loop. The audible effects are happening because your ground lead is too long and allowing itself to become an antenna, thus picking up noise. The battery negative terminal is, in most aftermarket 12v installations, going to be a terrible spot for ground.

Keep your ground leads short, 12 inches or less if possible, and find a flat area of steel chassis, scrape some paint away with a flatblade screwdriver and use a self-tapping sheet metal screw to affix your ring terminal ground cable.

Multiple radios? Ground them all to the same spot if possible or as close as you can, again keeping their relative ground potential as close as equal as possible.

These same rules hold true for aftermarket security systems and audio gear as well. The negative post is almost always your enemy for noise.

As for the IC-706MKIIG having an effective but less aggressive noise blanker circuit on sparkplug noise then other, who cares? If you build it right and install it correctly, you'll never turn the circuit on. The 706MKIIG has no equal in its class when installed properly. The picture in that article of a Kenwood HF unit underdash — ugly installation. I would never want people to see that.

73, Bill Reynolds, KC7YYY

Dear Bill,

*Besides adding my own two cents, I invite you to send in photos of your mobile installation; space permitting, we'll run it in the magazine, along with photos of your specific wiring and antenna installation. I also thought the Kenwood photo we showed was pretty representative of many mobile installations, and in fact a rather neat installation, but I'm sure the fellow down the street would have a "better" way of doing things. Here's Gordon response to your letter:*

"Thanks for your input on an alternative way to achieve the minus connection to the battery. Maybe in the audio market it is common practice using the vehicle frame as the return, but in the two-way radio market, we have always been trained to rely on red and black wires and NOT to use the vehicle chassis for anything other than an RF ground or counterpoise.

I agree that ground loops can indeed be a problem at low frequencies, but up at high frequency we have found that spark plug noise almost always radiates directly from the engine area to a nearby high-frequency antenna. One of my tests is to take an isolated radio "sniffer" and sample an area around the vehicle to see what is radiating all of the noise. It usually comes from the engine compartment, independent of any ground loops because I haven't installed any equipment yet!

Let's hear more about noise elimination, and good grounding techniques — especially from you who appears to be very well versed in audio systems, too. We can all learn from experts!"

Gordon West, WB6NOA

# UTILITY RADIO REVIEW

News, Information, And Events In The Utility Radio Service Between  
30 kHz And 30 MHz



*Burke class guided missile destroyer USS Cole (DDG 67) taken September 14, 2000, approximately one month before being attacked by a terrorist-suicide mission during the early morning hours of October 12, 2000. By using computer-assisted radio techniques, your chances of monitoring important news events as they happen are greatly enhanced. (U.S. Navy Photo)*

**L**ove'em or hate'em, the personal computer is here to stay. What's for better or for worse is the fact that computer chips have now come to live in your radio, and by the looks of it they are going to be staying there for good.

In fact, as we saw in last month's column, the traditional radio may be replaced by a little black box that hooks up to your computer and antenna — and that's it. No more knobs and buttons to play with, but instead you use your mouse and keyboard to tune in a frequency, or scan a bank of them.

This month I am going to begin a detailed look at how you can get more out of your radio, and make listening to interesting ute targets easier than before by connecting it to a personal computer. This month I am going to be looking at the direct control of a programmable monitoring radio through a number of powerful software packages.

## Part II: Computer Controlled Radio

Yes, you can continue to punch in your frequencies manually if you wish, but really and truly, the use of these software packages will save you time, scan faster, and really open up the potential of your radio in ways that you may not have thought possible.

In saying all this you have to understand that I've always been a stick in the mud conservative when it comes to radio technology. I love my old analog tube sets, and they all get a regular workout in my shack. My conversion to computers and radios has been a slow and cautious process, so

if I start to sound a bit preachy here, please write in and tell me to turn it down a notch.

However, because of that caution I'm going to be putting everything here to you in plain language; trying to make it so understandable that you will be inclined to try it out yourself. I hope you do, because you will find a whole new world of ute monitoring waiting for you — and it is easier than you may think.

In addition to the computer topic, I've also got a very good set of logs this month, and a group of new contributors. It appears that the message is finally getting out — if I don't have logs, I can't publish them. So people have been sitting down, writing out what they hear, and have been sending them in. You will be pleased with the results.

So enough of the housekeeping, let's get on to this really fascinating topic of computer-controlled radios.

### Radio Control Basics

OK, so you want to control your programmable monitoring radio with your personal computer. How are you going to do that? Plain and simply all you need is four things, and these are:

1) A programmable radio (e.g. one that has a memory where you can store fre-

quencies, and you can program to things by pushing certain buttons) that is designed to accept control signals from a personal computer that is attached to it by a cable. Take a look at **Sidebar 1** for a partial list of the most popular radios that you can control with your PC.

2) A personal computer of recent vintage that has a central processor unit (CPU) of the 486 type or better (preferably one of the Intel Pentium type or equivalent), and has RAM memory of at least 32 megabytes. Plus the computer's operating system should be Windows 95 or better. (I'll make a special note for those of you who have Apple computers).

3) A serial cable that reaches comfortably between the personal computer and programmable radio, and has the correct connectors on each end that is of the right size and type. I'll talk about the proper gender of cable and the pin type later.

4) The proper software to control the radio. What type is that you may ask? Well, whichever one does that job for you that you want it to — so I will give you an overview of some of the available packages that are currently available on the market.

So let's start with the radio itself. Increasingly, today's modern HF receiver is coming out of the box fully set-up to use a personal computer and software control packages. Many are "traditional" sets with a full range of knobs and buttons to provide the finger candy that so many technophiles love to tweak and twiddle with. In those cases you simply plug the radio into the computer via the serial cable, and turn on the control software.

As long as the software is properly installed and configured you can begin to tune the radio with it. You have three main ways of doing this:

- Punch in an individual frequency and have the computer "tell" the radio to tune to it.
- Specify a low frequency and a high frequency and have the computer tune the radio between those two ranges.

- Scan a band of individual frequencies that you have specified, and generally cover a specific ute service (e.g. marine, aviation, military, etc.)

What is happening is that the programmable radio has specific software codes that tell it how to do certain tasks. Normally these codes are hard-wired into the manual operation. Punch a button, and rather than sending current to a circuit like in the old days, you are now sending digital signals to a micro-processor that then performs some pre-programmed function.

What you are doing when you hook up the personal computer to the radio through the serial cable is taking over the function of the buttons, and replacing it with the codes found in the computer software. The benefit of doing this is generally the computer software can operate the radio faster and more efficiently (e.g. it can send the codes to the radio faster and in more complex patterns).

Remember, though, that the computer software can add no more than is already there in the programmable radio. You will not get a new radio when you plug it into the computer, just a radio that can perform better — if you take the time to master the personal computer and the software.

## Getting The System Talking

Ok, so now you really want to hook up your PC to your computer — what's next? Well the physical hook up is the most important thing next to the computer and the software. Let's look at that cable.

The way in which computers communicate with each other is with digital information. If you don't have a lot of computer background, think of it as a form of Morse code for machines (it's surprisingly close to it). The serial cable allows this digital information to be transferred from the computer to the radio, and back again.

Literally the computer sends along a command — like change the frequency to 5845 kHz, and radio says, "Sure boss, and here is confirmation that I did it." The computer and the radio yak back and forth over the serial cable — if it's configured properly.

The only tricky part about using a serial cable is making sure that it is plugged into the right part of a computer. This part is called the serial port, and they generally come in pairs — COM1 and COM2. Just to make things more interesting, the connectors that you use to plug the serial cable in are two varieties — 12 pin and 9 pin and two genders — male and female.



*This is what you see on the computer screen when using Scancat-Gold for Windows. As you can see, it looks like a standard radio, but with more features.*

The bottom line on this one is that you need to read your instruction manuals for both the radio and the computer very carefully in order to find out what you have and what you need. Frankly here is where a good relationship with your radio and computer dealers is needed in order to get the proper information. Whatever you do, don't be afraid to ask a question — that's what these guys are getting paid for when you buy their equipment.

One other thing that you should be aware of is that some radios — particularly those from the late 1980s and early 1990s may be controllable with a computer. However, they will only do this after you get a special adapter that fits between the radio and the serial cable (e.g. Yaesu's that use a special CAT adapter).

Again, read your manual and talk to your friendly radio dealer before embarking on this project. Planning goes a long way to making success.

## Choosing The Software

So now you have all of the hardware taken care of, the next item that needs to be looked after is the software. Here the big problem is making the choice that is suitable for you. Which one is the "right" one? What you need to do is ask yourself a couple of basic questions, such as: How often do I use my radio? Everyday, week-ends or once in a while?

What type of monitoring do I do? Am

I listening to a single frequency for long periods of time (e.g. a ute net where communications last several minutes to several hours) or scanning multiple frequencies for short bursts of information (e.g. aviation or military)?

How good am I at understanding the operation of a software package and a computer? Can I work with something that is very complicated and has many features, or do I need something simple to operate?

The bottom line is this — if you really need a lot of "power" to monitor a lot of frequencies a great deal of the time, then by all means go out and get the top of the line. However, if you are just starting, and want to experiment a bit before going all the way, then there are some easy-to-use programs that have a great price — free!

I'm going to profile two commercial packages in this month's column in order to show you what can be done with optimal software. Let's take a look at them.

## Scancat-Gold By Computer Aided Technologies

Generally when you try to be all things to all people, you end up with a mediocre product. Not so in the case of Scancat-Gold. This is a product that will work with a wide range of computer controllable radios, including desktops, handhelds, and wide bands.

It was originally written to control the Yaesu FRG-9600 back in 1988, and has been re-written many times in order to accommodate the latest generations of radios. It currently comes in a DOS and Windows version, and supports multiple ways of scanning frequencies.

If you look at the picture you will see the interface that you see with the Windows version of the program. The programmers have decided to stay with a "traditional" radio look and feel in order to make the transition to computer operation easier.

Changing frequencies is easy as all you do is point at the dial in the middle of the screen and click on either your right or left mouse button in order to go to a higher or lower frequency. As you can see you can jump up or down 1 MHz at a time.

If you want to tune an individual frequency all you need to do is point and double click on the lower frequency read out (there are two) and punch in the numbers in a pop-up field. To scan a range of frequencies you can go to the menus to the right of the dial, and select the range that you want.

Scanning itself can be done in several ways, such as by stopping when activity is detected on a frequency or by dwelling on a given frequency for an allotted period of time. You can choose a mode (AM, SSB, CW, etc) to scan in, as well as the frequency increment down to one cycle.

What makes things really interesting is the ability of the software to read large numbers of frequencies in different band. You can set up to 100 of these bands, allowing you to concentrate on specific services or specific ranges of frequencies. Each of these can be easily brought up and used through the software interface.

The program also allows you to use commercially created frequency lists, download frequencies from your radio into computer files that the program can use, and manually create lists by typing in the frequencies. The program also has a logging function that allows you to build lists on the fly as you are listening.

Now you would think that is enough, but the program has *more* to offer than just that. The list is much too long to go into here, but one of my favorite features is the Bandscope (see picture on page 66). What this does is sample a range of frequencies, and presents the results in the form of a bar graph of signal strength and activity. You can look for something interesting, point and click on it, then the radio tunes to that frequency.

Another interesting feature is the abil-

ity to create an interactive map with "hot spots." For example, if you want to listen to radio activity in a particular city in the world, you can program the desired frequency into that spot. Then, all you have to do is point and click on it later on, and it will be immediately placed into the radio.

What really makes the software stand out is the fact that it is easy to install and get running. As they say in the manual — if the software does not work the problem is most likely in the computer's serial ports. They have technical support folks who can help you out if you get into a fix.

This software package would be of interest to the traditional ute monitor who knows what service they want to listen to, and has the patience to learn how to use the software in order to get the frequencies into the computer. Make no mistake, there is a learning curve here, but a manageable one for the person who sits down and reads the manual carefully from cover to cover. Still, you can have it up and running in only a few minutes by using the basic features first.

### Ergo by Creative Express Corporation

This is a relative newcomer to the field, having begun as a computer front end for the AR7030. The software is designed for use with high-end monitoring radios, such as the Drake, NRD and Watkins Johnson and the new Ten-Tec RX-320. (However, there are plans for an open architecture version that can be adapted to a specific serial port supporting radio, with some programming knowledge).

The product will perform all of the basic control functions that you would need to control your radio, but a look at the interface used shows that this is done in a slightly different way. As the photo shows, the design philosophy is a bit different from the one used to create Scancat-Gold.

Rather than using the "radio behind glass" approach to designing controls, the interface is based upon computer functionality. As a result the program provides you with several floating windows that focus on specific tasks.

Again, if you refer to the picture, you will see that the top left window controls the scanning of bands of frequencies. By using an interface you can use popular ILGRadio and Fineware databases, as well as build your own. (Note: while the software can support earlier Klingenfuss

### Programmable Radios With Computer Interfaces

Here is a partial list of radios available today. Check your owner's manual of your own radio to see if it supports computer interface and control software. (Courtesy Computer Aided Technologies.)

- Yaesu FRG-100/FT890/990/1000
- Yaesu FT-840
- Yaesu FT-847
- Yaesu FT-757
- Yaesu 757GXII
- Yaesu FT-767GX
- Yaesu FRG-9600
- Yaesu FRG-8800
- AR-3030 HF Rcvr
- Kenwood TS-811
- Kenwood TS-940
- Kenwood TS-440
- Kenwood R-5000
- Kenwood TS-140/680
- Kenwood TS-950
- Kenwood TS-850
- Kenwood TS-450S
- Japan Radio NRD-525
- Japan Radio NRD-535
- Japan Radio NRD-345
- Japan Radio NRD-545
- Lowe HF-150
- Lowe HF-250
- Watkins Johnson HF-1000

CD's, it is not compatible with the 2000 Super Frequency).

The window in the upper right area directly controls the operation of the radio, and provides the display of the current frequency. It also provides you with a graph of the signal strength.

The remaining windows are two very interesting innovations that begin to show the real strength of using computer technology. The Map window in the lower right shows you the terminator/grey-line at a given time in order to help you decide optimal paths for propagation. This is used in conjunction with the propagation window in the lower left corner, which provides an evaluation of the propagation path between yourself and your target.

Frankly this product is still new, but it shows a great deal of potential, particularly for the ute monitor who is looking for DX rather than continental targets.

One other potential feature that is interesting is the intentions of making the soft-

ware package work over a Local Area Network. With a simple home network setup using a high-speed modem or DSL telephone connection you would be able to operate and listen to your home ute monitoring radio over the Internet — and in a future column or article I'm going to tell you exactly how you can do it.

## So What's The Conclusion?

What I've discussed here is just two of many radio control packages. The value of the two mentioned here is their ability to work with many radios, and the innovative way that they approach a common problem.

Both are sold for U.S. \$100 and have websites where you can get more information on each product. Check out:

**Scancat-Gold—**  
<http://www.scancat.com>

**Ergo —** <http://www.swldx.com>

The Scancat-Gold wins out for ute monitoring due to its scanning capabilities and greater flexibility using different types of frequency databases. The range of radios supported is also larger.

However, the Ergo is decidedly using computer processing more effectively. For example, there is a plan to have the software use live information from the Internet to give continuous propagation updates in the software. Thus if you wanted to target a particular area of the world for ute traffic, then this software package would allow you to do so with greater accuracy. Likewise the idea of being able to use my radio from a remote location has some real merit — imagine the potential for people who live in restricted residences where antennas are impossible to raise.

## What's Next With Computers?

So there you have it — a starting point for discussion and understanding. What have your experiences been with such software packages? Do you have any suggestions or techniques that you want to share with the readers?

Frankly I would like to see a first person report from an experienced ute monitoring station that has used the computerized approach to its fullest potential.

One thing that I'm going to be doing in the upcoming months is profile individual packages that may be shareware (use then pay for) or freeware (like the name says). Likewise I am also going to review

software packages that can be used to demodulate digital signals, process your audio, and log your contacts.

Welcome to the 21st Century. Like I said before, love 'em or hate 'em, the personal computer is not going away, and we'd just as well learn to live with them. Particularly when they make our ute monitoring so much more easier than before.

## Readers' Letters

The E-mails and letters have been coming in at a good rate, and I thank each of you who have taken the time to write. We have some new contributors this month who have been kind enough to send in their logs as well. Let's start with Dan from the mid-west.

Hello Joe,

My name is Dan Gillespie. I am from Ada, Michigan, just east of Grand Rapids, in West Central Michigan or about 40 miles east of Lake Michigan. I was an occasional contributor of logs to the previous column, but have not been very active lately.

Currently on a medical leave of absence from my job as a firefighter due to foot surgery, I am getting back into listening, I have been a subscriber to *Pop'Comm* now for a couple years. I am also taking this time to study for both my Technician and General ham licenses. I am eager for the General so I can do HF DXing.

I listen with a RadioShack DX-394 attached to a 70-foot wire antenna strung across my back yard. Utes and AM Broadcast are what I generally listen to. Here I go with a few loggings from last night. Hope to send more in the future.

Thanks, Dan for the note and I hope everything heals properly. And good luck with the ham tickets. I've enjoyed many years of both ham and SWL activity, and I hope you will too. Likewise I look forward to receiving many more logs from you in the future.

Our next letter is from someone returning to the radio monitoring fold, so to speak.

Joe,

Just finished leafing through the March issue of *Popular Communications*. I have been reading the magazine off and on for many years, but I must say that the quantity and level of content is better than ever. I have been a radio enthusiast for about

22 years, but took a break from the hobby for some time. I am back now and listening in on all of the action via my ICOM R71A with a random length of wire stretched across the length of my apartment. Having been caught up in the advent of the Internet I had all but given up on the HF spectrum, but I have been pleasantly surprised to find a lot of new and interesting stuff to listen in on.

I have a question for you and the readers. I am an avid military monitor and I would like to know if there is a list of tactical identifiers available for use when listening to USAF HF communications.

Thanks for your efforts and I am looking forward to future issues of the magazine! Cheers!

Craig A. Rose  
Santa Clara, CA

Craig raises a good point here regarding the Air Force ID's. I'll do some research and post them here — and I would welcome any contributions from people who have information on this topic. Likewise I am wondering if I could also get some reader input on doing ute monitoring with compromised antennas, such as the one that Craig is using here.

Anyone have any suggestions? How good are active antennas in such situations, or do you end up with more noise than signal? Please send in your ideas.

Dear Joe,

Just read your article on Monitoring NASA and was wondering if you have any frequencies for one to monitor during the MIR landing in the Pacific Ocean in a few weeks.

The list of frequencies you listed for NASA is great. Will be adding them to my files today. Thanks for the many good articles and keep up the good work for the hobby. Good Listening and DX!

Stewart H. MacKenzie, WDX6AA

Thank you, Stewart for the kind words. I'm going to look into that topic as well and post some frequencies here. Anyone have any information that they could share? Likewise I would also welcome input on the French, Chinese, and East Indian space programs. Are there any private interests still in operation today that are actively launching satellites?

Hello Mr. Cooper,

My name is Chris Steele and I live in Andrews, SC. I am an active longwave beacon hunter and do utility listening when the beacons are not cooperating. I used to send in logs but had gotten out of

the habit but I am now back in the swing of things. I use a DX-390 for my listening. My antenna is an Antron 99 at about 68 feet above ground level. It is connected to my radio via alligator clips to the external whip.

Thanks to Chris we have some long-wave logs this month. I would really like to expand upon this, or have them as a sidebar on a regular basis. Is there anyone else out there who monitors Longwave stations (and not just NDBs) that would like to contribute?

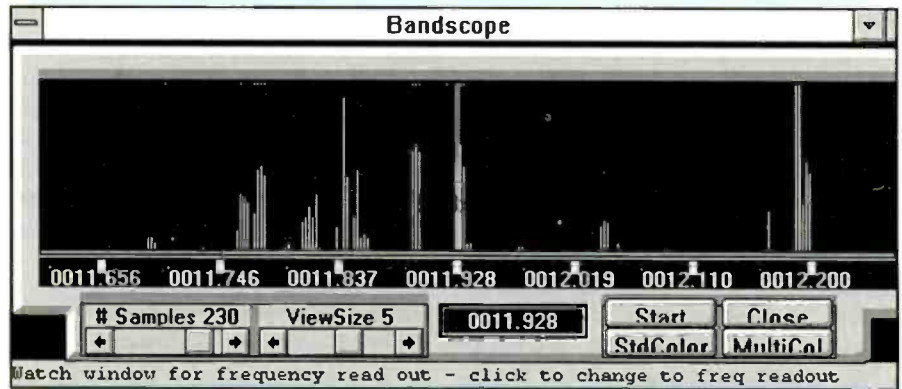
Now, time to look at the contributions for the month. Again, please note the logs of our new contributors, as well as their locations. We now have contributors from South Africa and the United Kingdom to add to our list. We have people from Japan, France, New Zealand, and other locations all actively contributing on a regular basis. There are still lots of room for more, and as I have said before — even if it is only one log, I will still publish it! So on to the logs.

## Reader's Logs

This month we have a really broad range of targets. As you will see we have some interesting logs covering military, embassy, marine, aviation, and even a new RTTY broadcaster. There are some interesting logs where two people have been monitoring the same station at the same time, and produced very different reports. It only serves to underscore why it is better to have logs from multiple stations being posted here.

Note: All frequencies in kHz; times UTC

**0000:** STATION. Anytown, USA, summary of traffic heard in MODE at 0000 UTC, personal comments here (JC)  
**325:** VV WIARTON, ONTARIO-UNK POWER (CS)  
**327:** PKZ PENSACOLA, FL-400 WATTS (CS)  
**329:** CH CHARLESTON, SC-400 WATTS (CS)  
**332:** FIS KEY WEST, FL-400 WATTS (CS)  
**333:** HQU THOMSUN, GA-25 WATTS (CS)  
**333:** QT THUNDER BAY, ONTARIO-1000 WATTS (CS)  
**334:** MCZ WILLIAMSTON, NC-25 WATTS (CS)  
**335:** MK MARION, VA-25 WATTS (CS)  
**335:** YLD CHAPLEAU, ONTARIO-UNK POWER (CS)  
**490:** LA GARDE SITOR/B//100/E/170 "Nav wgs in FF. Just audible, poor copy." MM (DW)  
**2094.2:** MFA STOCKHOLM MIL.STD 188-



*This is the bandscope feature used in Scancat-Gold to graphically show activity on each frequency. You can tune the radio by pointing and clicking on each spike.*

141A ALE on USB. Cng S97/Abidjan DP(DW)  
**2582:** ZBM: Bermuda Harbor Radio 0435 USB w/MIB. (MADX)  
**2670:** NMN13: USCG Group Cape Hatteras 0133 USB w/MIB. (MADX)  
**2749:** Unid. OM in EE with aviation wx report in USB @ 0128. Very weak, had a rough time pulling out of noise. (DG)  
**2750.5:** FAFNICERTTY//50/N.400 "Marker Test de FDI8 voyez le brick figs ry's." MI (DW)  
**3155:** POWERCONTROL: Niagara Mohawk Power Company 0618 MIL-STD 188-141A w/sounding call. (MADX)  
**3308:** MARS Net (?) OM checking in with other AF prefix stations in Wisconsin, Illinois, Missouri, and Kansas. AFATFM (?) and other. Spoke they were on channel RG. Very good signal from all stations @ 0138 on USB. (DG)  
**3413:** EIP: Shannon VOLMET 0209 USB w/aviation wx. (MADX)  
**3413:** Unid. OM w/ British accent giving Air wx report, very weak @ 0145 in USB. (DG)  
**3485:** New York radio with aviation wx report for SE U.S. in USB @ 0149. (DG)  
**4020:** MARS station AAR6FU with others in net. (CR)  
**4026:** AAT3BF: US Army MARS 0140 USB w/AAT3GJ: U.S. Army MARS w/MARS Simplex Net. (MADX)  
**4026:** MARS stations AAR9HH, AAR9CI and AAR5BD participating in net. (CR)  
**4232:** FUF: French Navy Fort de France 0249 BAUDOT 75/825 w/call tape. (MADX)  
**4235:** NMF: USCG COMSTA Boston 0245 FAX 120/576 w/broadcast schedule. (MADX)  
**4271:** CFH: CANFORCE Halifax 0241 BAUDOT 75/810 w/meteo t/c. (MADX)  
**4295:** FUE: French Navy Brest 0230 BAUDOT 75/840 w/call tape. (MADX)  
**4583:** DDK2: Hamburg Meteo 0545 BAUDOT 50/380 w/meteo t/c. (MADX)  
**4632:** INDEPEN3: Colombian Navy Corvette Independiente 0137 MIL-STD 188-141A clg ATLANTICO: Colombian

Navy Atlantic Fleet HQ. (MADX)  
**4632:** BARRANCA: Colombian Navy Trng Base Barranquilla 0348 MIL-STD 188-141A clg CARMA: unid Col. Navy. (MADX)  
**4637.5:** KLA518: Tidewater Marine 0430 USB wkg unid. "Where are you located? . . . I'm at the fuel dock. I'm looking for the air control people and a welder . . . OK, I'll check with Operations. Stand by." At 0441, KLA518 clg LAUGHLIN TIDE (WYB6258/167/278gt Oil Service Vessel). (MADX)  
**4700.0:** POLISH KFOR ?LOC MIL.STD 188-141A ALE on USB. Cng IKZD-JANKOVIC MI (DW)  
**5072.0:** UNID CW "Offline encrypt ending "" =696 k" MI (DW)  
**5087.2:** GLOBAL RADIO COPPERHILL TN RTTY//45.5/R/170 "Religious programming". (5085 — J2B — tones offset 2210Hz (hi tones)" MS (DW)  
**5105.0:** UK MIL ?LOC MIL.STD 188-141A ALE on USB. Sounding MI (DW)  
**5107.9:** MOSCOW MET FAX//120/576/N/800 850mb analysis but center of label corrupted with ALE burst. Otherwise fuzzy. Chart Europe/E Russian/Med MF (DW)  
**5153.8:** CISN KALININGRAD CW Single letter [P] HF beacon MI (DW)  
**5153.9:** CISN ARKHANGELSK CW Single letter [S] HF beacon MI (DW)  
**5154.0:** CSIN MOSCOW CW Single letter [C] HF beacon MI (DW)  
**5343.0:** UNID MIL.STD 188-141A ALE on USB. CM (DW)  
**5344:** UNID: 0421 BARRIE seven ch VFT 7x75/170. Pilot tone on 5344.560. (MADX)  
**5388.5:** WFI: FBI Washington, DC 0343 MIL-STD 188-141A w/sounding call (MADX)  
**5450:** MVU: RAF VOLMET 0704 USB w/aviation wx. (MADX)  
**5500:** INDEPEN3: Colombian Navy Corvette Independiente (Type FS1500, CM-54) 0259 MIL-STD 188-141A clg ATLANTICO: Colombian Navy Atlantic Fleet HQ. (MADX)  
**5505:** EIP: Shannon VOLMET 0153 USB w/aviation wx. (MADX)

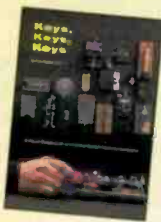


# books, calendars, videos...

## Keys, Keys, Keys

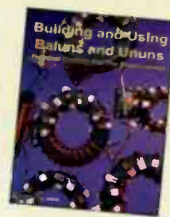
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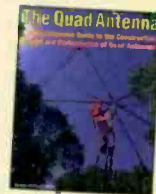
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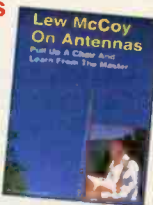
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## Remote Listening To Radios Via Personal Computers

If you have a personal computer with an operating sound card capable of connecting to the Internet and browsing the World Wide Web, then you can tune a number of monitoring radios by remote control.

For example, if you want to play with a Drake R8 located in Reston, Virginia, try this site: <http://www.chilton.com/scripts/radio/R8-receiver>

This radio has been in operation since 1985 and has been accessed over 110,000 times! There is good documentation on how the station was built and hooked up to the Internet.

Other sites to check out are:

<http://www.visualradio.de> (Frankfurt/Main, Germany)

<http://www.javaradio.com> (Stockholm, Sweden)

<http://www.ralabs.com/swl440/index.html> (New York, USA)

<http://www.pejla.nu> (Ume Sweden)

**5696:** CAMSLANT: 0420 USB wkg 60A. "Roger, we'll notify PANTHER (DEA, Bahamas) that we have assumed your radio guard." (MADX)

**5696:** USCG HH-60J 0001 USB wkg CAMSLANT w/flight ops normal. OZM: unid USCG tactical 0001 USB wkg H5Z: unid USCG vessel. "We'll be with you on 8198" (CG Tactical Freq). At 0004, H5Z wkg NMN: CAMSLANT. (MADX)

**5786.0:** UNID MIL.STD 188-141A ALE on USB. Clog HOUAT CM(DW)

**5860.0:** INDIANAPOLIS ARTCC IN MIL.STD 188-141A ALE in USB. Sounding NG (DW)

**5860.0:** NEW YORK ARTCC NY MIL.STD 188-141A ALE on USB. Sounding NG (DW)

**6200:** NDBC: USCG Cutter Juniper (WLB-201) 2115 USB wkg CAMSLANT. "Location of deployment 3830.2N 07028.3W. Will complete ground trace in about two hours." CAMSLANT was on 6501kHz. (MADX)

**6312.0:** GMDSS ALERT CHANNEL DSC//100/E/170 "30 pkts in nine hrs. one too corrupt, seven illegals, 22 SAFETY/TEST. Coast stations logged — Lyngby, Portsmouth (CAMSLANT), Valencia" MM (DW)

**6378:** 4XZ: Israeli Navy Haifa 0424 CW w/call tape. (MADX)

**6389:** CTP: Portuguese Navy Oeiras 03:37 BAUDOT 75/810 w/call tape. (MADX)

**6482:** CLA: Havana Radio 0554 CW w/call tape. (MADX)

**6513:** Several Russian MVs 0621 USB wkg unid coast station in RR. Each MV reported fuel status and conducted misc comms servicing. Coast Station is located in European-Russia w/greetings being "good morning." (MADX)

**6513:** Several Russian MVs 0621 USB wkg unid coast station in RR. Each MV reported fuel status and conducted misc comms servicing. Coast Station is located in European-Russia (MADX)

**6604:** WSY70: New York VOLMET 0200 USB w/aviation wx. (MADX)

**6604:** VFG: Gander VOLMET 0355 USB w/aviation wx. (MADX)

**6617:** KIEV VOLMET 0652 USB w/aviation wx in RR. (MADX)

**6628:** Air Canada 870 to New York radio with position report and advised by New York to call Gander on 5.598 for next report. (CR)

**6770.0:** FRENCH NET MOLENE MIL.STD 188-141A ALE in USB. Clog GROIX NG (DW)

**6785:** MVNHF424: unid U.S. Army Corp of Engineers 0133 MIL.STD 188-141A w/sounding call. (MADX)

**6845:** HSP: unid British Mil 0314 MIL.STD 188-141A w/sounding call. (MADX)

**6908.2:** UNID: French Forces (loc?) 0523 ARQ-E3 200/400 idle. (MADX)

**6912:** E10: Mossad Numbers Station 0533 AM w/CIO2. (MADX)

**6980:** S00: Swedish MFA 0612 MIL.STD 188-141A w/sounding call. (MADX)

**6990:** FDG: French Air Force Bordeaux 0405 BAUDOT 50/380 w/voyez le brick test tape. (MADX)

**7512.0:** FRENCH NET MOLENE MIL.STD 188-141A ALE on USB. Clog GROIX NG (DW)

**7512.0:** UNID MIL.STD 188-141A ALE on USB. response to BATZ CM (DW)

**7535.0:** DARWIN MET FAX//120/576/N/800 "End of chart. Fuzzy. 2120z tropical wind analysis. Listed 500hPa, lbel looks like 300." MF (DW)

**7599.0:** POLISH KFOR ?LOC MIL.STD 188-141A ALE on USB. Clog OPERACYJNYPKW MI (DW)

**7670.0:** UNID FAX//60/576/N/800 "Weak met chart. Looks like analysis with synoptic obs, area undetermined. Deterioration after 0750z (abt halfway pnt) with qrm." MF (DW)

**7671.5:** FAF BORDEAUX RTTY//50/R/850 "Marker Test2FDG voyez le brick figs ry's." All sent w/o word spacing" MI (DW)

**7685.5:** NNN0MDC: HQ USN/MC MARS Washington DC 1815 PACTOR-II 100/200 All calls shortened to six-characters

(NN0LLL). (MADX)

**7708.0:** GABON RLWYS ?LOC MIL.STD 188-141A ALE on usb. Sounding NG. (DW)

**7753.0:** MOROCCAN ARMY ?LOC MIL.STD 188-141A ALE on USB. Sounding MI (DW)

**7831.5:** ANTANARIVO AIR ARQ/E3//48/I/400 "100 hz high. 8rc. Poor sync but svc at 2207z [TNC, txt unreadable. 2211z slow transfer, fmmmyfyx/Antanarivo mentioned. 2217z nxt svc slow corrupt." (DW)

**7880.0:** UNID CW "Tfc in offline encrypt w/accenuated ltrs. Slow CW. Tfc then in fig grps, various lengths." (DW)

**7915.0:** UNID MIL.STD 188-141A ALE on usb. Clog or sounding. CM (DW)

**7993.5:** UNID: 1957 PACTOR 100/200 w/call for NNN5MDW: Navy MARS. (MADX)

**8007.0:** TURKISH MIL ?LOC MIL.STD 188-141A ALE on usb. Sounding MI (DW)

**8055.5:** MKD: Royal Air Force Akrotiri 0509 PICCOLO VFT w/idle channel on 8055.51, encrypted channel on 8055.91. At 2105, Op Chatter on 8055.51 At 2107, "DE MKD OPS SAYS THEY RECEIVING NOTHING FROM YOU BUT HAVE SENT YOU A TEST DID YOU RX IT KKKK". (MADX)

**8055.9:** RAF AKROTIRI PICC//

**8055.910:** Tfc chan (2) in vft. Online encrypted. MI (DW)

**8096:** M8A: Cut Numbers Station 0523 CW w/5FGs (cut) already in progress. At 0525, "AR AR AR RGNMN (x5) = = =" then into new message. (MADX)

**8120:** ROBLE: unid Mexican Mil 0112 MIL.STD 188-141A clog TAURO: unid Mexican Mil. (MADX)

**8127:** E10: Mossad Numbers Station 0549 AM w/CIO2. (MADX)

**8150.5:** PBB: Dutch Navy Den Helder 0602 BAUDOT 75/810 w/CARB. (MADX)

**8151:** IGJ44: Italian Navy Agusta 0712 BAUDOT 100/700 w/call tape. (MADX)

**8165.0:** UNID MIL.STD 188-141A ALE on USB. Sounding MI (DW)

**8195:** Coast Guard Rescue 1702 with p/p via COMMSTA Kodiak to Command Center rpt. vessel lost steering and was being aided by the vessel Aleutian 1. CG 1702 advised return to Kodiak with ETA of 3.5 hours. (CR)

**8200:** UNID: Russian FV 0119 USB 2xOM/RR. Discussions re fishing, and supplies. (MADX)

**8334.0:** MOROCCAN ARMY ?LOC MIL.STD 188-141A ALE on USB. Sounding, MI (DW)

**8403.5:** BATM SUKHONDYAAI: 0717 BAUDOT 50/170 w/TG tfc. At 0728, end of tfc from UXAK: Unid Russian MV. (MADX)

**8414.5:** GMDSS ALERT CHANNEL DSC//100/E/170 "Coast stns logged — Lyngby, Boston, Miami thru 1640z. Illegal 0-1000000 all thru period. Chksum error when included"MM (DW)

**8495:** C: Russian Navy Moscow 0614 CW w/"C" call. (MADX)

**8540.0:** MARIUPOL RADIO 3SC//50/R/170 "Tfc bdcast/qxs list in 3SC, poor copy.

Followed by vri hi spd Morse, qsx list in slower CW."MM (DW)  
**8573:** CLA: Havana Radio 0435 CW w/call tape. (MADX)  
**8586.0:** IZMAIL RADIO ? CW Vri fast cw. Wkng ships. Seems reluctant to send own csgn MM (DW)  
**8642.1:** MGJ: Royal Navy Faslane 0536 BAUDOT 75/340 w/CARB broadcast on channel 3 of Royal Navy 4-channel VFT. (MADX)  
**8670:** IAR: Rome Radio 0432 CW w/call tape. (MADX)  
**8686:** IRM: Rome Medical Radio 0429 CW w/call tape. (MADX)  
**8698:** 7TF: Boufarik Radio 0427 CW w/call tape. (MADX)  
**8764:** NMC: USCG CAMSPAC 1052 USB w/highseas forecast. /4426/ (MADX)  
**8867:** 0755 AK Mangere Intl Airport nz129 contact Melbourne secondary 143 chk (TL)  
**8912:** UNID: US Customs Service 2050 USB w/Over-the-air-Rekeying and PARKHILL voice scrambler. (MADX)  
**8992:** REACH 9062: Tail #90062 0541 USB w/kg MCCLELLAN w/pp to HILDA WEST. Interrupted by ANDREWS w/28-character EAM (JYYE3B...) REACH 9062 is enroute to Nellis AFB. (MADX)  
**9041.0:** NAIROBI MET RTTY//100/N/850 "Marker ""cq de 5YE ry's"" and met tfc" MR (DW)  
**9044.9:** NAIROBI MET FAX//180/N/800 Sig wx charts. Blurred MF (DW)  
**9082.0:** UNID PICC/VFT 2 chan piccolo. VFT on usb MI (DW)  
**9106.7:** Egyptian MFA 2038 SITOR-A w/tfc for LKZGCG: Egyptian Embassy Washington DC. (MADX)  
**9157.0:** GW NODE BERN CW "Chan free marker (Globe) ""HEC"" MM (DW)  
**9212.0:** FRENCH NET MOLENE MIL.STD 188-141A ALE on usb. ClnG GROIX NG (DW)  
**9259:** CGE: unid CANFORCES 0128 MIL-STD 188-141A clg CRC2: unid CANFORCES. (MADX)  
**10051:** New York Radio (VOLMET) with New York - Oceanic weather broadcast. (CR)  
**10121.9:** UNID PACT//100/-/200 "Broken tfc under wideband modem bursts. Subj: Heleou Karibialta. Part in EE, part in unid language (R/amateur or ute?)" MS (DW)  
**10144.0:** R/AM BEACON CW "Marker DK0WCY beacon. 1430 info bdcast." MS (DW)  
**10177.6:** UNID ? ARQ/E3//192/E/400 8rc. Betas. No app tfc MI (DW)  
**10455.5:** GW NODE DARWIN CW "Chan free marker (Globe) VIE and working ship in Globedata" MM (DW)  
**10588:** FM6FEM: FEMA Region Six Kansas City 0214 MIL-STD 188-141A w/sounding call. (MADX)  
**10608:** INDEPEN3: Colombian Navy Corvette Independiente (Type FS1500, CM-54)0254 MIL-STD 188-141A clg ATLANTICO: Colombian Navy Atlantic Fleet HQ. (MADX)  
**10996:** FDI8: French Air Force Nice 0126 CW w/call tape. (MADX)

**11105.0:** CHINESE DIPLO ?LOC MIL.STD 188-141A ALE on usb. ClnG YT315A DP (DW)  
**11175:** Andrews with EAM @ 0118 in USB. (DG)  
**11175:** WOODEN91 with multiple p/p's via Ascension. First p/p to TACCWESTSAIL which advised that runway at McGuire closed due to KC-10 stuck off runway. (CR)  
**11175:** Offutt calling KING80 with all frequency request — no joy (CR)  
**11175:** REACH51 with p/p request to Dover metro through Offutt. (CR)  
**11175:** REACH264T (C-17 tail #96007) with p/p via Hickam Global to Hickam CP advising arrival time of 0430Z with need for accommodations for crew of 12 + 9 others, then followed with p/p to Hickam metro. (CR)  
**11175:** REACH9017 (C-5) with p/p via Hickam to Hickam metro for weather at Las Vegas (possible divert) and Hill AFB. (CR)  
**11175:** REACH9017 (C-5) with p/p via Hickam to Hill metro for 0430Z arrival forecast and pilot report from loc at 37N, 123W. (CR)  
**11175:** GHFS Puerto Rico-YM in USB w/msg traffic at 2041UTC. Repeated twice. (CS)  
**11175:** REACH 6956 calling MAINSAIL in USB at 2045UTC, several calls, w/no joy. (CS)  
**11175:** ???550 calling MAINSAIL in USB at 2058UTC w/no joy. (CS)  
**11226:** METRO(?)11 with p/p via HILDA WEST to HILDA metro for weather at Eielson for 0122Z arrival. (CR)  
**11253:** MVU: RAF Volmet 2027 USB w/aviation wx. (MADX)  
**11282:** REACH264T (C-17 tail #96007) with position report to San Francisco radio. (CR)  
**11425.0:** MFA BUCHAREST MIL.STD 188-141A ALE on usb. ClnG YPM. 1343z clng YPM24 DP (DW)  
**11427.5:** MFA ALGIERS MIL.STD 188-141A "ALE on usb. ClnG TNS/Tunis, foll by Racal MSM1250 10-chan modem"(DW)  
**11430:** HMF55: KCNA Pyongyang DPRK 1032 BAUDOT 50/250 w/EE news. (MADX)  
**11453:** IMB33: Rome Meteo 2025 BAUDOT 75/850 w/meteo broadcast. (MADX)  
**11461.3:** EGYPTIAN EMB ATHENS SITOR/A//100/E/170 Tfc to Cairo in offline encrypt and AA (ATU80) then opechat (DW)  
**11489:** DEPS: Moroccan MOI 2059 MIL-STD 188-141A w/sounding call on LSB. (MADX)  
**11523.0:** UK NET ? ?LOC MIL.STD 188-141A ALE on usb. Sounding NG (DW)  
**12132:** UNID: Russian Intel Svc 2103 CROWD36 40/250 (MADX)  
**12225:** S73: Swedish Embassy Lagos 0732 MIL-STD 188-141A w/sounding call. (MADX)  
**12225:** S73: Swedish Embassy Lagos 0732 MIL-STD 188-141A w/sounding call. (MADX)  
**12226.0:** MFA STOCKHOLM MIL.STD 188-141A ALE on usb. ClnG S73/Lagos DP (DW)  
**12577.0:** GMDSS ALERT CH DSC//100/E/

170 Logged thru 2313z c/stns — 0654/Lyngby 0718/tokyo 0851/Madrid 0950/Chilung 1042/Perth 1205/Miami 1307/New Orleans 1356/Boston 1647/Pt Reyes 1712/Capetown. No Distress/Urgency calls. MM (DW)  
**13031:** FUF: French Navy Fort de France 0457 BAUDOT 75/810 w/test tape. (MADX)  
13149: prob XSQ: Guangzhou Radio 1103 USB w/YL/CC in conversation. (MADX)  
**13163:** 1107 No station (piano keys)(TL)  
**13200:** GANDER(?)99 (C-17A) with p/p via McClellan to Elmendorf metro for arrival weather at 0245Z and pilot report followed by p/p to Elmendorf CP with offload information for DENALI. (CR)  
**13200:** GHFS Andrews-OM in USB w/msg traffic at 1719UTC. (CS)  
**13215:** 430078: USAF KC-10A #83-0078 2029 MIL-STD 188-141A clg GTL: Thule AFB. (MADX)  
**13261:** 1708 mwara Sydney R syd.2016 Bris .R 178 new freq 8867 278 Roger Bris. (TL)  
**13270:** New York Radio VOLMET with special weather statement for Milwaukee. (CR)  
**13288:** American 129 with position report and request for flight level 380 from San Francisco. (CR)  
**13330:** UNID in comms w/Houston ref radio checks. (CS)  
**13354:** Delta 157 to San Francisco radio with request for flight level 370. (CR)  
**13354:** San Francisco radio to Hawaiian 2 with selcal and ATC clearance for flight level 350. (CR)  
**13393.7:** MFA CAIRO SITOR/A//100/E/170 "irs mode, revng tfc fm Belgrade. Constant tone between bursts"DP (DW)  
**13475.0:** VENEZUALAN MIL MIL.STD 188-110A "ALE on usb. ClnG MONTECANO. 2308 clng PTOORDAZ, and 2317 clng GURI" MI (DW)  
**13479.7:** FF PARIS ARQ/342//200/E/400 "8rc. 2 chan tdm. Weak sync. betas. 1504z Tfc vri pr cp, appears to be to Sarajevo"MI (DW)  
**13486.9:** MFA COPENHAGEN TWINPLEX//100/-/-400/-200/200/400. Short op chat, s/off. Selcals TPRC. QSO inc ""hej Sofia""(opr or place?) s/off. Selcals TPEY. Starts each qso with TOPSERVICE, ends with NDSERVICE."DP (DW)  
**13530:** USAF AWS: 2020 BAUDOT 75/810 w/KAWN wx broadcast. (MADX)  
**13875.0:** MFA BUDAPEST ARTRAC// Progressive channel testing of vft on USB. DP (DW)  
**13876.7:** EGYPTIAN EMB BELGRADE SITOR/B//100/E/170 "Calling sequence indicating QSX 29331 (= 13392+1.7 = 13393.7). Switches to arq/ATU80 to send tfc to Cairo" DP (DW)  
**13882.5:** DDK6: Hamburg Meteo 1044 FAX 120/576 w/wave analysis chart. (MADX)  
**13882.5:** HAMBURG MET FAX//120/576/N/N/800 Atlantic sfc analysis. Rapid deterioration after halfway point.MF (DW)  
**13900:** BMF: Taipei Meteo 1048 FAX 120/576 w/chart. Significant fading. Unable to identify chart type. (MADX)  
**13920:** AXM35: Melbourne Meteo 2007 FAX

120/576 w/surface analysis chart. Also audible but unreadable on 11030. (MADX)  
**13968.5:** LATVIAN MIL ?LOC MIL.STD 188-141A ALE on usb. Clng OZOLS MI (DW)  
**13977:** HBD20: MFA Berne 0737 SITOR-A 100/170 w/selcal BMDf and then 5LG msg to Swiss Embassy Tripoli. (MADX)  
**14350.5:** S88: Swedish Embassy Buenos Aires 0244 MIL-STD 188-110A + 2400bd serial modem wkg S85: unid Swedish Embassy. (MADX)  
**14350.5:** SWEDISH Embassy JEDDAH MIL.STD 188-141A ALE on USB. Clng S48/Damascus DP (DW)  
**14352.0:** UNID MIL.STD 188-141A ALE on usb. Clng BRA DP (DW)  
**14353.0:** ROMANIAN EMB ?LOC MIL.STD 188-141A ALE in USB. Clng CENTR5 DP (DW)  
**14689.5:** ROMANIAN EMB ?LOC MIL.STD 188-141A ALE on USB clng CENTR1 DP (DW)  
**14931:** 8BY: Fr Intel (Enigma: M16) 1957 CW w/call tape "vvv vvv vvv 8by 8by 8by 306 / 780". (MADX)  
**15034:** RCAF weather and NOTAMs broadcast via Trenton Military. (CR)  
**15820.0:** Swedish Embassy Kuwait MIL.STD 188-141A ALE on USB. Sounding. DP (DW)  
**16105.0:** SWED EMB ?LOC MIL.STD 188-141A ALE on usb. Sounding DP (DW)  
**16640:** ASI: UK FCO/Mil Ascension Island 1925 MIL-STD 188-141A w/sounding call. (MADX)  
**16804.5:** GMDSS ALERT CH DSC//100/E/170 Coast stns logged — 1024/Perth 1131/Lyngby 1148/Boston 1241/unid Aust/005030051 1246/Taupo?/005120000 1306/Brisbane 1350/Miami 1424/HongKong 1432/Portsmouth 1743/CapeTown MM (DW)  
**16817.0:** GW NODE DELAWARE SITOR/B//100/E/170 Wx forecast MM (DW)  
**16927.0:** KALININGRAD RADIO 3SC//50/R/170 Slow op chat with P3LX6 then tfc in 3SC to P3M8 MM (DW)  
**17320.0:** GW NODE TIANJIN CW "Chan free marker (Globe) ""XSV"" MM (DW)  
**17343:** 1107 No station (piano keys) (TL)  
**17916.0:** SDJ Stockholm Radio w/REACH 123 DEP EDDF Frikfurt 0900 ETA LWSK Skopje 1136 pax 238 selcal check ELHM (PP)  
**18042.7:** FF LIBREVILLE ARQ/E3//192/E/400 8rc.Betas.Controle de voie svc RFTJ de RFTJ. MI (DW)  
**18218.0:** FBI ?LOC MIL.STD 188-141A-ALE on USB. Clng BA1/(location?). 1300z clng BR3/(location?) NG (DW)  
**18238.0:** CAPETOWN FAX//120/576/N/800 FAPR ASZA. Sfc analysis for waters off S/Africa. Pronounced slow MF (DW)  
**18277.0:** UK NET ? ?LOC MIL.STD 188-141A ALE on USB. Sounding NG (DW)  
**18686.0:** SWEDISH EMB KUWAIT MIL.STD 188-110A ALE on USB. Sounding. DP (DW)  
**19463.0:** SUNA KHARTOUM "Carrier uo 0904z. off 1029z. No signs of expected rty

press xmission at 0910/1010z. Signal fair/good"PR (DW)  
**19655.0:** GW NODE BERN CW "Chan free marker (Globe) HEC" MM (DW)  
**19810.0:** HGX21 MFA BUDAPEST ARTRAC Progressive channel testing of vft on USB. DP (DW)  
**20010.0:** SWEDISH EMB NEW DELHI MIL.STD 188-141A ALE on USB. Sounding DP (DW)  
**20036.7:** EGYPTIAN EMB DAKAR SITOR/A//100/E/170 Tfc in AA (ATU80) DP (DW)  
**20045.5:** PIN OAK GLADSTONE CW "Pactor-II (?) bursts. Signs off with CW ID WPC" MM (DW)  
**20047.8:** CISN KALININGRAD CW Single letter [P] HF beacon MI (DW)  
**20047.9:** CISN ARKHANGELSK CW Single letter [S] hf beacon MI (DW)  
**20048.0:** CISN MOSCOW CW Single letter [C] hf beacon MI (DW)  
**20086.7:** EGYPTIAN EMB KINSHASA SITOR/A//100/E/170 "irs mode, opchat in Arabic (ATU80) then encrypt tfc" DP (DW)  
**20304.7:** EGYPTIAN EMB ?LOC SITOR/A//100/E/170 irs and opchat in Arabic (ATU80). S/off 1519z DP (DW)  
**20533.0:** MFA BUCHAREST MIL.STD 188-141A ALE on USB. Clng ACG. DP (DW)  
**20533.0:** ROMANIAN EMB ?LOC MIL.STD 188-141A ALE on USB. Clng CENTR4/Bucharest. DP (DW)  
**20602.0:** UK NET ? ?LOC MIL.STD 188-141A ALE on USB. Sounding. NG (DW)  
**20942.0:** SWEDISH EMB ALGIERS MIL.STD 188-141A ALE on USB. Sounding DP (DW)  
**20985.0:** SWEDISH EMB BUENOS AIRES MIL.STD 188-141A ALE on USB. Sounding DP (DW)  
**22890.5:** UNID PICC//On standby. No app tfc thru 1935z when fading out. MI (DW)  
**22928.6:** MFA STOCKHOLM MIL.STD 188-141A ALE on USB. Clng S31/Algiers DP (DW)  
**22928.6:** SWED EMB ABIDJAN MIL.STD 188-141A ALE on USB. Sounding DP (DW)  
**23584.0:** SWED EMB KUWAIT MIL.STD 188-141A ALE on usb. Sounding DP (DW)  
**24268.0:** UK NET ? ?LOC MIL.STD 188-141A ALE on USB. Sounding. CM (DW)  
**25120.0:** MOROCCAN ARMY ?LOC MIL.STD 188-141A ALE on USB. Clng 02 MI (DW)  
**26221.0:** SWED EMB TOKYOMIL.STD 188-141A ALE on USB. Clng ? 1306 sounding. 1334 clng S67/Colombo S57/Dhaka (DW)  
**27870.0:** USAF ROOSEVELT RDS PR MIL.STD 188-141A ALE on USB.

This month's contributors were:  
 Mid-Atlantic DXer (MADX)  
 Maryland, USA  
 Tony Lowe (TL) Masterton NZ  
 Daniel Gillespe (DG) Ada Michigan (New)

Craig Rose (CR) Santa Clara, CA (New)  
 Patric Patrice (PP) Noailles France  
 Chris Steel (CS) Andrews, SC (New)  
 Day Watson (DW) United Kingdom (New)

Again, many thanks for your excellent work. By now several people should have received their URR certificates of appreciation for their log contributions. All it takes is one log and a mailing address to get one. Later on I will be providing endorsements for number of logs, unusual or significant logs, and other notable contributions. Likewise, please remember that you can write to me directly either through *Pop'Comm* or to my mailbox at: PMB 121  
 1623 Military Rd.  
 Niagara Falls NY 14304-1745  
 or E-mail me at ur-review@provcomm.net.

## Next Month: Hot Spots

Now that we are moving into the summer months, our monitoring should be picking up some interesting action. That's why next month's theme is "Hot Spots." Over the past few month's we've had earthquakes, wars, disasters, and other high action events.

The question is — how do I listen to them on the HF bands? That's what I'm going to be taking a look at and providing some hot frequencies to monitor.

In the upcoming months I'll also be looking at military, marine, and boating themes. Here is where you can really help out. I would very much like to have someone from the readership pen a short topic of about 500 words to include in the column.

There are a lot of things that I don't know about, and I would very much like to have your expertise on a topic. I'll help you out if you feel that you can't write it out in full — just send me the main points and I will weave it into a usable form.

So please send in your logs. We are doing very well at this time, but we certainly have room for lots more. Again, it does not have to be that many. I've published individual logs as I promised, and I'm willing to do that for more people. And don't forget about the "suitable for framing" certificate of appreciation that you can get for that one log — not a bad deal, if I do say so myself.

Until next month, may all of your monitoring activity be successful and enjoyable. ■

# RADIO & THE INTERNET

Pop'Comm's Cyber Sleuth Checks Out Online Resources

**How to Make Your Airline Scanning "Come to Life"**

## HEAR IT!

On your Favorite Receiver / Scanner

(Like this AOR AR8200 SERIES-2 Wide Range Receiver)

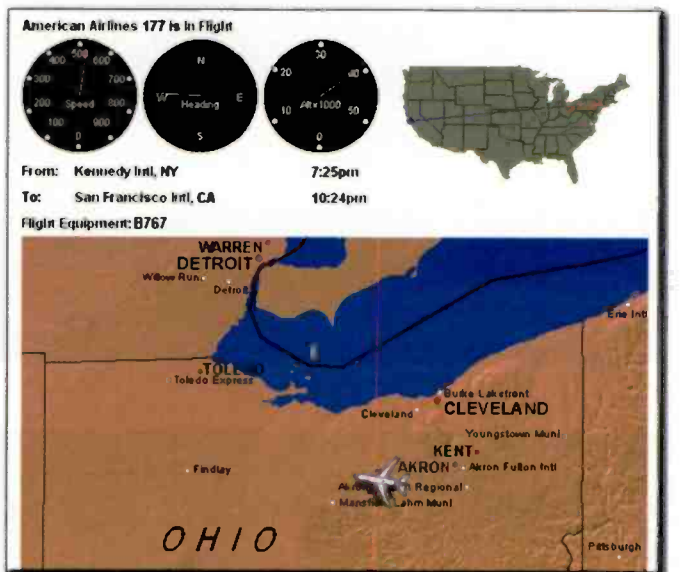
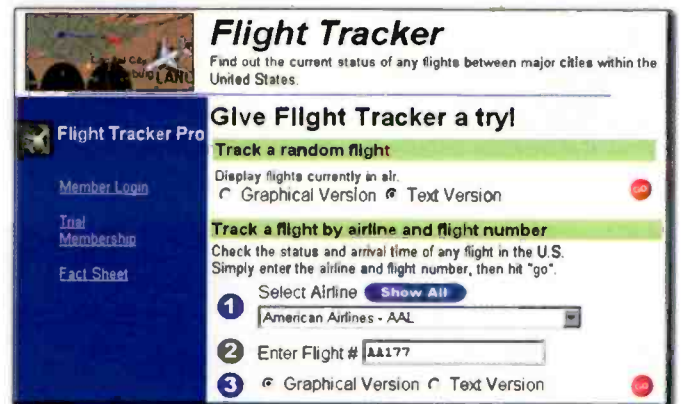


...American 177  
Level at Three  
Niner Zero...

Airline scanning will never be the same once you've integrated this suite of online resources. After you've identified the airline and its (domestic) flight number, you can "bring it to life!" Just fire up your web browser and follow the pictorials. For maximum enjoyment, open each of the three URLs below in a separate browser window. Then, minimize each to your task bar for later use. Here's some additional information about the Websites used to follow one of my "catches" shown here, American Airlines Flight 177.

## TRACK IT!

In Real-Time with FLIGHT TRACKER

Screenshot of the FlightTRACKER Pro website showing flight details for American Airlines 177.

Airline	Flight#	Departing Airport	Time	Status/Distance	Current Location	Altitude	Speed	Equipment
American Airlines	177	Kennedy Intl, NY	7:25pm	In Flight	13 mi NE of Mansfield, OH	39000'	527 mph	B767
		San Francisco Intl, CA	10:23pm	2134 mi E				

**TRIP.COM** — <http://www.trip.com/>

Has the slickest, real-time, flight tracker I've seen. If you use the "Graphic Version" you can watch the aircraft as it proceeds to its destination. Also provided are aircraft type, speed, heading, altitude, and departure/arrival times. Trip.com is also a great resource for tracking the flight(s) of your family and friends. Thanks again to Ralph Vanover for the tip about trip.com.

**AIRLINERS.NET** — <http://www.airliners.net/>

Hosting over 130,000 quality photographs, Airliners.net exemplifies the pinnacle of web design and content! Edited by founder and president Johan Lundgren, and fueled by amateur photographers around the world, airliners.net isn't just a site, it's an experience! If it flies, whether civil or military, you'll find extraordinary photographs and detailed information about it. If that's not enough, check out the aviation discussion forums, aircraft data and history archives, cabin layouts, industry news and much, much more! Folks, this is ONE AWESOME SITE!

**WORLD AIRPORT DIRECTORY** — <http://www.airportdirectory.dhs.org/airports/>

Provides a nifty portal to major airports and airlines of the world having an online presence. Another slick resource!

BY ERIC FORCE <eric@dobe.com>

# SEE IT!

At the World's Largest Photo Archive

# Check Out Its

Departure & Arrival Airports

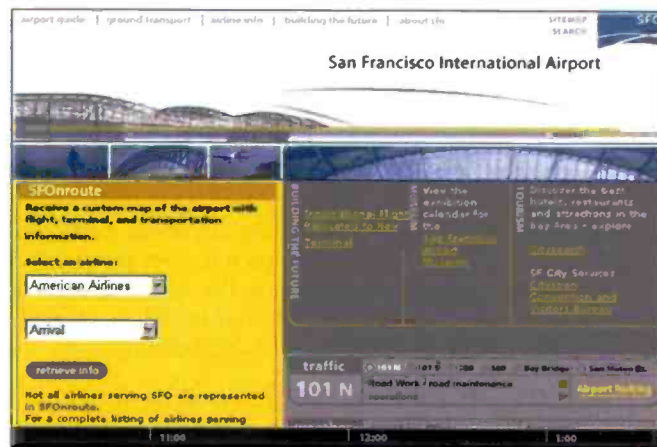


Search the database for your aircraft



Photo ID	Views	Aircraft	Location & Date
Photo ID: 548094	Views: 162	American Airlines Boeing 707-323/ER	Miami - International (MIA) / (MIA) USA - Florida, January 2800
		Remark	Photographer
		N905AM N965AM (#270004536)	James Richard Conacher, Jr
Send as Picture			
Photo ID	Views	Aircraft	Location & Date
Photo ID: 56136	Views: 94	American Airlines Boeing 707-323/ER	Chicago - O'Hare International (ORD) USA - Illinois, August 29, 1969
		Remark	Photographer
		N905AM	Mark Abbott
Send as Picture			
Photo ID	Views	Aircraft	Location & Date
Photo ID: 56136	Views: 113	American Airlines Boeing 707-323/ER	Chicago - O'Hare International (ORD) USA - Illinois, August 29, 1969
		Remark	Photographer
		N905AM	Mark Abbott
Send as Picture			

Select your favorite photo.



View a beautiful, high resolution, image!

Well, time to head back to the barn. I hope you'll enjoy this integrated way of scanning the skies as much as I do. Thanks for tuning in and remember, all online resources appearing monthly in *Pop'Comm* are always available at the Quick Links sit: <http://www.dobe.com/ql/>.

Keep those comments and suggestions coming and be sure to visit the *Pop'Comm* Website at <http://www.popular-communications.com/>.

Next month, we'll be changing our format a little. Look for more meat, less potatoes. And, on a single page no less! I think you'll like it. Stay tuned!

# iWAVES

Your Guide To Global Internet Media

## The World Is At Your Fingertips

Imagine your room, filled wall-to-wall, and floor to ceiling, every nook and cranny, with the most expensive and sophisticated monitoring, receiving and control equipment available today. Outside is your antenna farm — a seemingly unending sea of towers, wires, and satellite dishes reaching skyward, each precisely tuned, positioned, and matched to your receivers. Yes, you ARE "Mission Control". You have the ultimate listening post — the absolute best that money can buy. Now, multiply the reception capability of that system a thousand fold and you've got a feel for what you have available to you TODAY and for FREE! And, unlike that multi-million dollar, state-of-the-art facility, weather, terrain, distance, frequency, transmitter power, and regulatory agencies play little or no part in your ability to hear and see global, "on demand" transmissions! What are we talking about? It's the technology that some speculate will replace most Radio and Television broadcasting as we know it. What is it? It's Internet, Web-based "broadcasting" known as "Streaming Media" — media content that's available to you via your PC when connected to the Internet. Another way of envisioning this remarkable technology is to picture our planet Earth sitting atop your PC's monitor. With a few clicks of your mouse you can easily "tune" worldwide audio and visual "transmissions". You simply visit the appropriate stations (Websites) with your Web browser then hear and/or see it using software called a Media Player. The world's media content is, quite literally, at your fingertips whenever you want it! Helping you find that media is what this column is about.

### Phenomenal Growth And Resources

RealNetworks®, innovators of streaming audio/visual creation and playback software, estimates that over 350,000 hours of NEW content is placed on the Web EVERY WEEK! That much new



The FREE RealPlayer 8 Basic — get it at <http://www.real.com/>.

media content weekly brings to mind one word: "Overwhelming!" So, each month we'll try to cut things down to size by scouring the planet in search of ONLY the BEST of the BEST. Regardless of what it is, commercial or private, educational, entertainment, or informational, from all corners of the globe and everywhere in-between, if it's really good and looks or sounds like something you would be interested in, we'll highlight it here.

However, since this is our first issue, we're going to assume you're new to this technology so our initial goal is to get you up and running rather than focus on actual media content. Towards that end, we'll be covering a few basics related to the technology and the tools (media players) needed to explore and enjoy this amazing "new" technology. From a technical perspective, it CAN get pretty complex but we're only going to scratch the surface here. Much like heating a leftover in the microwave, you DON'T have to know radar theory to enjoy the results. If you

ARE interested in getting down to where the rubber meets the road, drop me an E-mail and we'll see what we can do in future columns. Perhaps you're interested in becoming an "Internet Broadcaster."

### What Is Streaming Media?

Streaming media is just as the name implies. It's audio and/or video content that can be heard and/or seen as it is being downloaded (streamed) to your PC. Compare that with traditional digital media like a (standard) MP3 or WAV file that has to be fully downloaded before you can play it. I can still remember having to wait for an hour or two for a single musical file to download before I could hear it. Streaming media has made those kinds of delays history! In a sense, it's similar to watching TV or listening to the radio in that images or audio are received JUST before you see or hear them. The main (and significant) difference is the variance

BY ERIC FORCE <[eric@dobe.com](mailto:eric@dobe.com)>



The FREE QuickTime Player — get it at <http://www.apple.com/quicktime/download/>.

in the QUALITY of the streamed media files you play. The main element responsible for quality, in terms of what your PC and media player processes, is bandwidth. Expressed another way, quality is generally determined by how FAST your PC (and media player) can receive a media file and for what bandwidth range the original content was created. Another, sometimes overlooked, factor that can drastically influence the quality of what you hear is your PC's sound system itself. A high-quality sound system can make a low-quality recording sound a little better but a low-quality sound system can make the best recording sound terrible. The plain and simple fact is you can't enjoy "CD Quality" audio from a pair of \$5 speakers. Complicating matters is not only the absence of a "standard" type of streaming media file, but that new file types are being developed routinely. To play the majority of everything available, you'd need at least four different media players installed on your system. If having so many players makes you a bit squeamish, fear not.

For the first few columns at least, most (if not all) of the streaming media content we'll highlight can be enjoyed on a single player — the free "RealPlayer 8 Basic®" from RealNetworks®. Since it can handle upwards of 85% of current streaming media content, we'll have no trouble in

ferreting out quality audio/visual resources for you. Also, since many Web sites are beginning to provide their content for both low- and high-speed access as well as creating separate streams for different brands of players that 85% coverage figure may increase over time.

As a side note, regardless of what player(s) you have installed, you will, guaranteed — at some point — click on a file type that is NOT supported. When that happens, you'll generally get an error message with a note asking if you'd like to obtain the proper software to play the file. If the file contains material you REALLY want then just proceed as instructed to obtain and install it. Since the file types supported by your primary player(s) are usually updated frequently, having to install supplemental players can be minimized by simply maintaining the latest version(s) of your primary player(s).

## Your Pipeline To The Internet

If you think of bandwidth as a water supply pipe, the larger the pipe, the more water can flow through the pipe. Bandwidth, or size of the "pipeline" to your PC, is defined by the type of access you have to the Internet. For example, in order of increasing speed, common examples of "consumer-grade" access methods are: 28.8 and 56.6 kbps "dial-up" (telephone) modems, ISDN (64 or 128 kbps, Integrated Services Digital Network), DSL (Digital Subscriber Line) and Cable. Details on ISDN and DSL can be obtained from your local phone company and your Cable TV supplier for Cable Access. I'd recommend against ISDN though. It's not that much faster, it's



The FREE Windows Media Player 7 — get it at <http://www.microsoft.com/downloads/>.



old technology and can be quite expensive. At any rate, access via DSL and above is termed a "BROADBAND" connection and is required to receive (uninterrupted) high-quality streaming media content. But, don't worry. There are thousands of excellent resources providing streaming media tailored for 28.8 and 56.6 kbps modems that sound (and look) surprisingly good. And, we'll feature them here.

However, if you've got your sights set on REALLY high-quality (streaming) video or audio, there's no current way around it; you'll need a "broadband" connection. Costwise, and assuming it's available in your area, you should be able to get unlimited cable access, which would include E-mail services, for about \$40-\$50 per month in the U.S. Also remember, the fastest connection in the world won't make up for a poor sound system. Another, very important, aspect about bandwidth is that regardless of how much YOU have, the ultimate quality of any Internet-based media "transmission" is determined by the system that supplies it to you.

Since the vast majority of people accessing the Internet today do so by way of a dial-up 28.8 or 56.6 kbps modem, most content is provided for that (lower bandwidth) market. In other words, even if YOU have a "broadband" connection, if the media was created for a low-bandwidth connection, that lower-quality broadcast is what you will hear or see. Think of it like playing an old "78" record on your ultra-sophisticated sound system — you can't increase the frequency range of the recording if it's not there in the first place.

## Radio Tools: Streaming Media Players

From my observations, the overwhelming majority of streaming media content appears to be created for, or can be played on, the RealNetworks® RealPlayer 8 Basic. Consequently, I have no reason to doubt the 85% figure stated by RealNetworks®. The other three major players are Microsoft's® Windows Media Player®, Nulsoft's WinAMP® (now integrated in AOL's version 6 software) and Apple's™ Quick Time Player®. Regardless of the brand, as applied to streaming media, they all function in a similar fashion. You click on a media file, a small portion of the file is saved in a "buffer" (usually about 15-30



The FREE WinAMP Player — get it at: <http://www.winamp.com/>.

seconds worth of play time) then the media begins to play. As data is withdrawn from the buffer and played, new data flows into it. Think of the buffer as a bucket with a hole in the bottom. Plug the hole and fill the bucket with water. Then, open the hole to let the water drain out. As it drains, use a hose (your pipeline to the 'net) to keep a supply of water in the bucket. If the hose becomes kinked temporarily, (network delay) there's usually enough reserve to keep the water flowing smoothly out of the hole until the flow into the bucket is resumed. Depending on the network's condition, (when network delays are frequent) you may need to increase the size of your player's buffer to achieve continuous or less uninterrupted play. From my perspective, having cable access to the Internet, the MAIN benefit of a broadband connection, has been that my media player "buffer" tends to stay full thus permitting longer periods of uninterrupted playback. Regardless, at times when the 'net is congested even my "fast" access behaves like a modem of 20 years ago!

## Plugins: Media Playing Made Easy

While all of these media players can be used independently as a "stand-alone" application, (i.e. fire it up, load a file from your hard drive, and play it), during the

initial installation they also link themselves to your web browser. That's called a Plugin (i.e. "plugged" in to your web browser) and is why you're able to visit a Website containing a streaming media file, click on it, and have it automatically open the appropriate media player and play the file. This, of course, assumes the player is installed and linked to your web browser. One of the "neat" things about recent web browsers is when you try to open a media file that you don't have the appropriate plugin for, most often you're given the opportunity right then and there to obtain it. As noted earlier, try to keep your media player(s) current. The reason, again, is that the technology continues to advance rapidly meaning (in many cases) your media content will look and sound better with each new version of the player. It's also likely that as the "battle for supremacy" in the streaming media arena progresses, each new player version will support additional file types. For us, that's good since at some point we may be able to use just ONE media player for everything — our choice of players being the one that best suits our individual needs. While we're not there yet, we are getting close.

## Of Web Browsers And Media Players

Probably one of the most frustrating issues from an "end user" perspective is

which one(s) should I use and do I need to install a separate player if my web browser already has one installed? Let's tackle the second question first. In my opinion, the answer is yes. For me, the increased flexibility gained is more than worth the time and minimal disk space required to obtain and install an independent version of a player. In terms of which player to use, if you have to choose only one then I'd recommend RealNetworks'® RealPlayer 8 Basic® since it handles the vast majority of current content. On my own system, I have all four of the players, noted above, installed since I use each in different ways. For example, if it's an MP3 music file then, for me, the WinAMP® player seems the best choice. I have Apple's QuickTime and Microsoft's Windows Media Player for those situations when ONLY those players will permit me to access a given media file.

## Installing Your Media Players

For the most part, installation of these critters is a "no brainer." Once you've downloaded a particular player, you simply use your Windows Explorer to go to the folder where you stored the installation file and double (left) click on the file name. From there it's just "follow the screen prompts." Each of the players will

## Tuning In (from page 4)

four weeks of constant studying and waking up in the middle of the night thinking "code" before I decided to take the exam. And because I had waited to the last minute before my General written certificate expired, I had to travel to Yonkers, NY — a fun ride whatever time of day — or take the General *written* portion again. Dream on.

As I've said before, Heaven knows if I can do it, so can you — if you're so inclined. But don't put it off as long as I did. About the only things I seriously procrastinate on are things that I know must get done, but aren't life-threatening, and are usually a very large pain in the posterior; painting and repairing that upstairs window, shoveling the driveway when the forecast is for 45 degrees the day after the storm, and learning Morse Code.

But like anything else, I thought about it with a goal in mind: getting on 10 and 20 meters and talking around the world — having fun with just a few watts and a

interrogate your system and gather the appropriate information needed for a successful basic installation. After the installation has concluded, you should have a new icon, representing the player, available on your Windows® desktop. From then on, whenever you're on-line and click a given media file, the appropriate player should automatically come to life. And, of course, since you now have a desktop icon, (shortcut) you can also start the player manually to play media you have stored on your PC. To obtain the media player(s) of your choice, (REALPLAYER 8 BASIC® is a MUST) visit the following URLs:

PlayerURL  
REALPLAYER 8 BASIC® —<http://www.real.com/>

Note: You're going to be "hit" with a BUY "RealPlayer 8 Plus" pitch first thing. Just scroll to near the bottom of the page and look for the "RealPlayer 8 Basic" download icon under Top Downloads. Before spending anything, try the free version first — it's a pretty slick player as is.

WINDOWS MEDIA PLAYER®  
<http://www.microsoft.com/downloads/>

Note: Once at the above URL, just

dipole antenna. It's done on CB all the time with flea power (by comparison to some of the powerhouse hams I've already talked with on 20 meters) so my little MFJ-9420 SSB transceiver didn't surprise me when DF7EV near Munich became my first overseas QSO — voice, of course. Not bad for a handful of watts!

A special thanks are in order to my wife and daughter (and yes, Mom for being a CBER back in the '60s where my love for radio began) who understand that "radio people" need special care and feeding; not just when studying for a license upgrade, but when something on the radio beckons, even at odd hours and on weekends. Thank your family too, please, for understanding that what's important for radio people in the final analysis is what's important to all of us, radio or not: having fun and making friends, but also remembering those that are close to you make it all possible.

Looks like it's finally time to work on that window. ■

select Windows Media Player from the "Select Product" drop-down menu and your operating system from the "Operating System" drop-down menu. From there, you will be taken to the appropriate download page where you can get your free player.

APPLE'S QUICK TIME PLAYER  
<http://www.apple.com/quicktime/download/>

WINAMP®  
<http://www.winamp.com/>

Note: If MP3 Music (or music in general) is your bag, WinAMP is Top Dog! In addition to handling streaming and normal MP3 files, it has a host of nifty "extras" including support for CD and 200 other audio formats, more than 20,000 skins (the ability to change the LOOK of the player) and 150 audio visualization and effect plug-ins. While exceptionally strong on the audio side, it does NOT support video like the other three players.

## Netscape™ Web Browsers

This item really doesn't have anything to do with media players per se but can definitely cause you some grief when online. One of Netscape's quirks, in my opinion, is in handling (or more to the point, NOT handling) Java or JavaScript rich Websites. Even their most recent version 6.0 is still terrible in that respect. In terms of streaming media content, more and more sites are REALLY getting into Java and JavaScript programming. So, if you're using the Netscape web browser, you can count on things just hanging (freezing up) when it encounters some of the newer Java and JavaScript instructions. Since I personally like the overall functioning of Netscape opposed to Internet Explorer, my default browser is Netscape. However, I also have Internet Explorer V5.0 installed and fire it up when my Netscape browser "crashes" — which 99%+ of the time is Java or JavaScript related. Well, we've run out of space without ever having visited a single media resource. Fortunately, each of players have their own built-in radio and/or resource directories so I encourage you to explore, play, and enjoy until we meet again next month with some pointers to outstanding media resources and "Web Casts" from around the world. Until then, happy listening and viewing. ■

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# WASHINGTON BEAT

FCC Actions Affecting Communications

## ***FCC Adopts Interoperability Standard For Public Safety***

The Federal Communications Commission has adopted a Fourth Report and Order and Fifth Notice of Proposed Rulemaking (FCC 01-10) establishing a framework and issuing guidance to allow public safety officials throughout the country to communicate with each other on designated interoperability channels in the **700-MHz band**. Communications interoperability between public-safety agencies is critical during emergencies and high priority incidents. In the R&O, the FCC adopted Project 25 Phase I as the voice standard for communications on the 700-MHz band interoperability channels. The standard ensures that all radios with voice capability on the 700-MHz band will have the ability to communicate with each other. Also adopted was the data standard incorporated in the Project 25 suite of standards for data communications on these channels, allowing short E-mails or status messages to be sent between band users.

The Commission also is seeking comment on the issue of migration to an efficiency standard of one voice path per 6.25 kHz on the General Use channels. In a move designed to encourage use of the 700-MHz band, the FCC stated that "the earliest date the Commission would require 6.25 kHz technology would be December 31, 2005, any 12.5 kHz-based systems constructed and placed in operation prior to December 31, 2005 will be able to continue to purchase and deploy 12.5 kHz equipment for system expansion or maintenance, and any 12.5 kHz systems constructed and placed in operation prior to December 31, 2005 will not be required to cease operations and convert to 6.25 kHz technology prior to December 31, 2015, at the earliest."

### **FCC Chairman Resigns, Powell Tapped For Position**

FCC Chairman William E. Kennard, called the "Broadband Chairman" who promoted competition, access, and greater consumer choice, resigned from

the Federal Communications Commission effective January 19, 2001. During three years of service, Kennard had a hand in many highlights, including implementing the 1996 Telecommunications Act, which reduced domestic and international telephone rates, and promoting deregulation, as well as connecting the nation's schools to the Internet via the E-Rate program. Kennard was a supporter of expanding digital access to minorities, Native Americans, persons with disabilities, and the disadvantaged. He is credited with bringing telephone service to more than one million Native Americans on tribal lands, and creating the new low-power radio service. Kennard moves on to serve as Senior Fellow of the Aspen Institute Communications and Society Program in Washington, D.C., using his expertise to advise on leadership, communications policy, and program activities and operations, as well as chairing the advisory board. Michael Powell, 37, an FCC board member and son of Secretary of State Colin Powell, has succeeded Kennard. He comes to the FCC from the Department of Justice, where he served as the chief of staff of the Antitrust Division.

### **U.S./Canadian Spectrum Sharing**

An agreement has been reached between the Federal Communications Commission, the National Telecommunications and Information Administration, and Industry Canada establishing requirements for sharing certain frequency bands along the U.S./Canada border. The arrangements defines border area coordination requirements for the U.S. Local Multipoint Distribution Service, the Canadian Local Multipoint Communications Service, and other services in the **27.35–28.35 GHz, 29.1–29.25 GHz, and 31.0–31.3 GHz** bands. The FCC stated that the requirements will help prevent cross-border interference and encourage prompt implementation of new services such as

high-speed Internet access and data expected to be offered in these bands.

### **FCC W5YI-VEC Inquiry**

The FCC has closed its probe of improper activities — namely forgeries of Volunteer Examiner signatures — alleged to have occurred at three Amateur Radio exam sessions held in South Carolina. Last year, the FCC initiated an investigation of W5YI-VEC and asked them to explain how it screens and accredits Volunteer Examiners, as well as procedures for verifying results of test sessions. FCC Special Counsel for Amateur Radio Enforcement Riley Hollingsworth told W5YI-VEC's Fred Maia in a letter that the allegations "constitute an alarming failure of oversight and integrity in the Volunteer Examiner program at those sessions." The FCC found nothing improper occurred at one of the sessions, but two others were suspect. Hollingsworth stated that volunteer examiners William J. Browning, ex-AB4BB and AF4PJ, and James F. Chambers, KF4PWF, forged the signatures of other VE's and "awarded themselves upgrades to Extra class." Browning forfeited his license and Chambers has been asked to return for retesting. For shame!

### **Wiretap Laws Go Before Supreme Court**

I've always said cell phones were a bad idea: anyone can use them and anyone can listen in. Now comes word that a union negotiator in Wyoming used his cellular telephone to call in a bomb threat to school board members during a labor dispute. That's bad, but it gets worse. Someone recorded the threat and sent it to a local radio station, where it eventually made its way on the air. The parties to the original conversation sued everyone involved under state and federal wiretap laws. Now the case is before the Supreme Court, which recently heard

BY LAURA QUARANTIELLO <LauraQ@cti.com>

arguments on the constitutionality of those laws. When the ruling comes down later this year it is expected to place limits on telephone privacy and the extent to which news agencies can print or air telephone calls.

### Washington State Enacts Ham Antenna Law

The State of Washington's Senate Committee on Economic Development and Telecommunications passed **Senate Bill 5002** into law in early January. 5002 amends RCW 35.21.315, 35A.21.260, and 36.32.600 to read "no city or town shall enact or enforce an ordinance or regulation that fails to conform to the limited preemption entitled 'Amateur Radio Preemption, 101 FCC 2nd 952 (1985)' issued by the Federal Communications Commission." The limited federal preemption simply states that local regulations involving placement, screening, or height of antennas based on health, safety, or aesthetic considerations must be crafted to reasonably accommodate amateur communications.

### Ham Gets Time And Treatment For Unlicensed Radio Operation

From the "Do the Crime, Do the Time" File: Former amateur radio operator Richard Allen Burton (Ex-WB6JAC) has been sentenced to three months in jail, one year's probation, and psychological treatment for operating an unlicensed radio transmitter. According to the FCC, Burton lost his ticket in 1981, but that didn't stop him from continuing to operate on repeaters in Southern California, even after he served jail time and was assigned to probation. He was finally indicted by a federal grand jury for six felony counts of violating the Communications Act of 1934. Gotcha.

### Your Input Wanted!

So what's going on in your area? Is there a controversy over cell phone towers in your city? How about a new scanner law? Tell us about it. Have you heard about a new FCC ruling or federal law? Let us know. "Washington Beat" welcomes information on all issues related to radio and the law. Send us a newspaper clipping, Internet URL, E-mail message, or letter. We can be reached at the *PopComm* offices or E-mail me at [lauraq@cts.com](mailto:lauraq@cts.com).

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# THE PIRATE'S DEN

Focus On Free Radio Broadcasting

## Oldies, Parodies, And Bill Clinton As A Father Figure?

It looks like a pretty fair turn out this month. Let's dive right in.

**Z-100, 6955** (times?). Brill Prather in North Carolina says he's been hearing this many nights over a period of months and says it is very strong all over the Southeast, but he never sees it reported. (*I thought we had this one in the past. If not, you have company now*—Ed.) **Z-100, 6955** at 0310–0330 with pops such as "Heart and Soul" by Huey Lewis, "Let's Go" by The Cars and "Somebody to Love" by Jefferson Airplane. 20 over S9 here in Western Pennsylvania. (Jack Linonis, PA)

**Euro-pirate Alfa Lima, 21890** heard at 1756. The announcer mentioned he was being heard in North America and gave an address in Holland. (Jerry Coatsworth, Ontario)

**KRMI, 6955** at 0400 to 0408 sign-off. (Lee Silvi, OH)

**Psycho Radio, presumed, 6955** at 1959 with possible test. (Silvi, OH) 0330 with "The Adventures of Shortwave Man," announced as on **6955** and **88.3 MHz**. "X-Files" theme and the song "Powdered Toast Man" from the Ren and Stimpy Show. (Linonis, PA)

**Ground Zero Radio, 6955** at 0306 with IDs and music. There seemed to be a second station on at the same time playing songs about the Vietnam War. Ground Zero heard again from 1356 to 1430. (Silvi, OH)

**Shortwave Man? 6952 USB** (time?). A few references to "Shortwave Man" and talks about pirate radio. (*See Psycho Radio, above*—Ed.)

**Radio Take It Easy, 6955** from 0640 to 0655 with some sort of detective-type skit, then a mention of the Belfast, NY, mailing address and listing several publications which have columns or articles on pirate radio. Closed at 0655 with the Eagles' "Take It Easy." (Bill Rolfsen, Mukwonago, WI)

**KMUD, 6933** at 0132 with music and IDs. "You are listening to the muddy sounds of KMUD, broadcasting from the depths of the high desert." The station also ID'd as Black Rock Radio. I couldn't tell if it was the same or another station underneath but I think they were the same. (Adam Christian Smith, WA)

**Voice of the Angry, 6950** at 2312 to 2341 sign-off. Various songs and IDs, maildrop. I assume this is the one supposedly broadcasting from "Just outside the gates of Graceland." (Silvi, OH)

**Radio Obscura, 6955** at 0425 with "This is Radio Obscura" and parody song Deteriorata. (Linonis, PA)

**Cell Phone Radio, 6950** from 1200–1335 with "The Crooked Man is calling," and talking about Clinton as a "father figure" and Ma Bell declaring "this frequency is now the home of Cell Phone Radio!" (Linonis, PA)

**KIPM, 6955** at 0355–0425 with Alan Maxwell going on about various conspiracy theories. I received a QSL in one week from the Lula, Georgia, maildrop. (Linonis, PA) **6940 USB** at 0100 with a show called "The Adversary." Repeated at 0300 on **6950 USB**. QSL via Box 69, Elkhorn, NE 68022. Also heard



Radio Free Euphoria's QSL, this one on light purple stock.

on **9640** with the same program at 0200 the next day and on **9650** at 0350 with a program called "The Hollow Earth." Then, at 0347 with "The Hollow Earth Bonus Program." (William T. Hassig, IL)

**Voice of the Runaway Maharishi, 6955**, heard from 0200–0220 with song parodies, promo for the A.C.E. and talks about "JTA." (*John T. Arthur*—Ed.) (Linonis, PA)

**Prime Time Radio, 6954.84 LSB** at 0340 with mention of "AM 740, Canada's newest station." They featured punk rock alternating with ballads. (Hassig, IL)

**WHYP, 6944.9v** at 0140. Strong at first. Heavy metal music. QRM from an unidentified station at 0150. Also at 0200 with a game show featuring Regis Brownyard as the host and James Brownyard as a contestant. Also noted at 0035 with a spoof on KIPM's "Adversary" program with music taped from a KIPM broadcast. Alan Brownyard was the host. E-mail addresses for reports givens as WHYP1530@Yahoo.com and WHYP1530@Starmail.com. (Hassig, IL)

I guess we have room to cover a few unidentifieds: **6850.5 USB** at 0023 to 0228 close. "You are listening to . . . 73s, 73s, 73s." (Silvi, OH) **6945** at 0400 with ballroom music from the 1930s. **6945** at 0150 with many fake ads, including one for the American Express Card, fake Bill Clinton, Homer Simpson. QRM from WHYP. **6949.75 USB** at 0130 with heavy metal music. (Hassig, IL)

That's the lot. Keep listening and keep sending in those logs. I need copies of QSLs too, especially from currently active stations. Thanks for your help and I'll see you again next month!

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