Preparing for the Worst

also...

RADIO in the 1990's

March to Freedom: DXing Namibia
Brent Bogdanski's Fiery Chubasco Net
You Have Counted on Us for 15 Years

You have counted on OPTOELECTRONICS Hand Held Frequency Counters to be the best quality, to be affordable and reliable. We have been there for you with Frequency Counters that are compact and ultra sensitive. And more and more of you are counting on us, technicians, engineers, law enforcement officers, private investigators, two-way radio operators, scanner hobbyists, and amateur radio operators, just to name a few.

### Hand Held Series Frequency Counters and Instruments

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ACCURACY ALL HAVE + / - 1 PPM TCXO TIME BASE.

All counters have 8 digit red 28" LED displays. Aluminum cabinet is 3.9" H x 3.5" x 1". Internal Ni-Cad batteries provide 2-5 hour portable operation with continuous operation from AC line charger/power supply supplied. Model CCB uses a 9 volt alkaline battery. One year parts and labor guarantee. A full line of probes, antennas, and accessories is available. Orders to U.S. and Canada add 5% to total ($2 min, $10 max). Florida residents, add 6% sales tax. COD fee $3. Foreign orders add 15%. MasterCard and VISA accepted. Orders to U.S. and Canada add 5% to total ($2 min, $10 max). Florida residents, add 6% sales tax. COD fee $3. Foreign orders add 15%. MasterCard and VISA accepted.
Radio in the 1990s by Don Bishop

We stand on the edge of a new decade. In the 120 short months that the 1990s will last, the world of communications is expected to see a number of exciting and often high-tech advances.

According to Don Bishop, communications will be a sci-fi world filled with amazing new methods and modes of communications. From transmissions bounced off the tails of meteors to some of the hottest monitoring since Marconi, the 1990s will clearly be the decade of the radio. Be prepared as Monitoring Times starts off with "Radio in the 1990s."

Preparing for the Worst with Radio

You don't have to be a paranoic to prepare for the worst with radio. Your radios can be a valuable tool during times of trouble. But like all tools, they need to be kept in a state of constant readiness.

Not all disasters must be cataclysmic, either, to take advantage of your radio. From severe thunderstorm to ground-shaking quake, the payoff of a well-prepared monitor can be big -- your life and the life of your friends and family.

Chubasco Net by Deborah Howe

A Chubasco is a rapidly moving, violent storm unique to the Sea of Cortez. The Chubasco net got its name from these storms, partly because of the way in which it was born and partly because of the person who runs it. You see, net controller Brent Bogdanski is a character. And after listening to him on the radio, author Deborah Howe had to meet him. You can, too, in this issue of Monitoring Times. But beware. XE2VJD is not for the faint of heart.

Namibian Voices by Charles Sorrell

"Independence or death!" has been the cry of this long-occupied African country. On its long road to freedom, the same war waged on the ground has been taking place on the airwaves. Take a ring-side seat for history in the making.

ON THE COVER: Radio Station KGO 680's twisted and toppled antennas in the aftermath of the San Francisco quake. (Photo by Doug Chalmers, WA6DMK)
London Calling
by Cathy Turner

Never underestimate a nine-year-old, says his mother. An inspired birthday greeting via the BBC leads to a whirlwind visit to England, the BBC, and -- best of all -- grandparents.

Walden Revisited

"I came to the woods because I wished to live deliberately..." The words are from Henry David Thoreau and they have recently been taken as the operating philosophy behind a unique radio station known as Walden Radio 1120. Join American BandScan author Karl Zuk as he meets the people behind this exciting new radio station.

The Yaesu FRG-8800 Revisited is the theme of Larry Magne's column this month, with a look at this popular standby. A new scanner, the Realistic PRO-2022, is reviewed by Bob Grove.

Antenna Talk poses the age-old question, "To Vee or Not to Vee?" Read further for the answer to this and many more of your monitoring dilemmas.

Coming soon ...

On the Border Radio stations, you could buy everything from baby chicks to salvation. High powered broadcasters huckstered cures for everything from cancer to sexual weakness. Texan Durell Roth writes about this outrageous and colorful chapter in the history of radio.

From Africa comes a first-hand profile of Zambian radio -- an exotic and often-sought signal. And Bruce Heald takes us on a monitor's journey of American railroads. All this along with the best columnists in the business -- coming up in America's favorite radio magazine, Monitoring Times!

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A QSL from Radio Havana Cuba received by Ray Labrie of Portsmouth, New Hampshire.

Radio Havana Cuba is taking out newspaper ads to let people know about their shortwave station. Billing itself as "Voices of a New World in the Making," the station boasts "a fresh new angle on the news." (You'll certainly find no argument from us there.)

Regrettably, the ad might do little more than preach to the converted. According to reader Steve Forest of Cincinnati, Ohio, the Radio Havana ad runs in the "People's Daily World."

For a while, it looked as though ham radio operators would have to pay a fee -- somewhere between 30 and 35 dollars -- whenever the FCC issued a license. The proceeds of the so-called "cost of regulation" fee would not, however, go to fiscally strapped FCC. Instead, the estimated $42 million dollars generated by the license fees would go to the general treasury to help reduce the federal deficit.

Fortunately, it appears that the idea is now dead. According to Fred Maia, W5YI, South Carolina Senator Ernest Hollings has told him that he will "work...to strike these fees from the current legislation."

Had the fee gone through, Maia estimates that the average ham working his way up the ladder of licenses would have to shell out nearly $200.00 in all.

Keep your hands on your wallet, gentlemen. The Federal Government is here.

"Congratulations," says Ed Coleman of Buffalo, New York, "on your frequency section. I find it to be, without a doubt, the best of all. Of course, that's to be expected. You've been doing it longer than anyone else."

Thanks, Ed. If imitation is the sincerest form of flattery, then we have been very flattered indeed. Watch for more flattery in the very near future.

We did want to mention that unlike any other publication, we periodically scrap our entire list and start from scratch. It's a tremendous amount of work but well worth it in terms of increased accuracy. This month's list, for example, is completely revised. Be sure to check it out. There's lots of new and exciting DX targets to try for.

One other thing. We do welcome your participation in the frequency section. You're invited to send in additions, corrections, even station schedules. Send them to Frequency Manager, P.O. Box 98, Brasstown, North Carolina, 28902. Or use the FAX machine, left on for your use from 5:00 PM until 8:00 AM Monday through Friday, and all day Saturday and Sunday. The number is 1-704-837-2216.

Rob Cave of Princeton, Texas, wrote in with a super idea for owners of Sony ICF-2010s. If you own one of these radios, you know that they've got a good deal of memory in which you can "save" your favorite frequencies for later recall. The problem is, of course, that unless you are some sort of a mentalist, you can never remember what frequencies you've saved on what button.

What Rob did was to make a cardboard overlay for the '2010. It fits right over the memory buttons, effectively labeling them. "It takes me about a half hour to make one by hand. A precision die-stamped overlay would be so much nicer."

Here's an admittedly bad xerox of Rob's version. Says he, "If someone could start making and selling these, I would be the first customer."
Rap: Where It Belongs

Regular readers of Monitoring Times have read numerous occurrences whereby people hear local radio stations coming out of their toasters and other unusual electronic appliances. The phenomenon, though often surprising, is not all that uncommon in areas located near transmitting towers. In two Los Angeles neighborhoods, people regularly complain about hearing rap music booming from telephones, televisions, stereos, bedroom walls and even toilets.

The difference between this case and others is that KDAY brags about it, frequently airing promotional announcements saying that KDAY can be heard everywhere, "in cars, at the beach, in living rooms, even in the shower. It reaches more people than you imagine."

"It's awful. It's unbelievable. At night it's unbearable," said one resident. "It's even worse in wet weather. You can walk in my yard when it rains and hear the 'rap, rap, rap' on my chain link fence."

KDAY focuses its 50,000 watt signal in a narrow path toward downtown and South Central Los Angeles. According to station officials, the station can sometimes be picked up in Hawaii and Japan.

Long Live Nipper

Three stained glass murals of Nipper, the mascot for RCA's Victrola-brand phonograph, have shattered. The windows, which depict the dog patiently listening to his master's voice, were smashed when tornado force winds ripped through Building No. 17 of the Radio Corp. of America plant in Camden, New Jersey. A fourth Nipper portrait, 14-1/2 feet in diameter, was unharmed.

According to an RCA spokesman, the windows that were broken by the wind were actually copies. The first editions, bearing the slogan, "His Master's Voice," were removed in 1965 during a corporate identity change. The copies were hung in 1979 when RCA resurrected the trademark.

Seven years later, GE, which is the parent company of RCA, sold the rights to the alert little dog to Thomson S.A., a state-owned French conglomerate. The original Nipper windows are at the Smithsonian Institution, Penn State University and Widener University in Chester, Pennsylvania.

Pitcairn Ham Comes to U.S.

Famed Pitcairn Island ham radio operator Tom Christian, VR6TC, has been selected by the Seventh Day Adventist Church to attend a conference in Indianapolis, Indiana, next July. His expenses will be paid by the church but Christian would like to bring his wife, Betty (VR6YL) and two of his daughters with him.

U.S. hams, anxious to have the opportunity to meet the Mutiny on the Bounty descendant, have started a fund-raising campaign. If you'd like to donate, send your contribution to Howard Phelps, 5580 Lerner Way, Sacramento, California 95823.

Michigan Beginner's Seminar

On January 14, 1989, the Michigan Area Radio Enthusiasts (MARE) are holding a "Beginner's Seminar" at the Dearborn Civic Center. According to club officials, "There will be presentations on mediumwave (AM)/FM/TV DXing, shortwave, utilities scanners and equipment. Write to P.O. Box 311, Wixom, Michigan 48096 for more information.
The seminars run from 2:00 pm until 5 p.m. and all are welcome.

New Light on Alleged Satellite Pirate

About a year ago, we reported on a massive FCC crackdown against satellite signal theft via modified VideoCipher-II descramblers. Raids were conducted in many cities, including Las Vegas, Nevada. Now comes word that one of those arrested for allegedly selling such devices is convicted cop killer Richard Nickl. Nickl, who escaped from a Wisconsin federal prison in 1974, had reportedly been operating United Satellite of America under the name Michael Connors. Fingerprints proved his real identity.

Arizona Republic (Doug Chandler, Arizona); Philadelphia Inquirer (Richard DeVere, Wagontown, Pennsylvania); San Francisco Chronicle (Doug Chalmers, California); W5YI Report (Harold Margolis, Seattle, Washington)

CAN RADIO PREDICT EARTHQUAKES?

A disaster like that of October 17, 1989, always carries with it an aftershock of disbelief. Could the devastation and death have been prevented? Are there valid methods of earthquake prediction? Perhaps there are.

Experiments conducted over the last few years suggest that a few days prior to a major seismic event, characteristics of radio signals emitted from the impending earthquake zone change. The larger the quake, the longer the lead time for those indicators.

Joseph Tate of Ambient Research in Sausalito, California, and William Daily of Lawrence Livermore National Laboratory in Livermore, California, have recorded average background signal levels, both natural (atmospheric lightning) and man-made (power grid, ignition noise, etc.) with a network of receivers along the famous San Andreas fault, revealing two kinds of changes in radio wave propagation prior to earthquakes.

The first type of radio wave phenomenon was observed during tests conducted between 1983 and 1986, when a several-hour drop in average signal strength occurred from one to six days prior to a quake. The 6.2 Richter jolt of April, 1984, in Hollister, California, was preceded six days earlier by a 24 hour reduction in radio signal strength on a monitor 30 miles from the epicenter.

In contrast, the second type of phenomenon is a short increase in signal strength before a seismic event. Five days before Palm Springs, California, experienced a 6.5 Richter earthquake in July, 1986, a recording station 15 miles from the epicenter noted a distinct rise in signal levels.

Amateur experimenters have apparently discovered yet another fascinating radio phenomenon prior to a quake: a shifting of radio frequencies in the broadcast band! Ray Cole has been watching this anomaly for the past three years; last October, he recorded an abrupt 8 kilohertz increase in a carrier frequency which lasted for a week, dropping back to normal with the San Francisco earthquake!

Scientists have long known that major seismic events are coupled with crustal electric effects--bright flashes have been seen in the sky and computers have experienced failures. Most likely, this is a piezoelectric effect similar to the spark produced by a pushbutton gas-grill ignitor or spark-ignited cigarette lighter.

Tate and Daily believe that increased ground conductivity of stressed rock strata results in radio waves being absorbed rather than emitted. They also suspect there may be an increase in the leakage of radon gas (another possible indicator of an oncoming earthquake) which might also absorb radio waves.

While Tate says that his team's signal-level observations allowed them to predict every earthquake in 1984 and 1985 without fail, and that accurate earthquake forecasts may be feasible within the next few years, Cole feels that his frequency-shift data are still too sketchy to warrant a full-blown research effort into this phenomenon.

As correlations begin to clarify the picture, MT would be eager to host a research program involving experimenters who are technically agile, testing some of these hypotheses. Anyone out there interested?
WHAT TO LISTEN FOR IN THE 1990s

Get set to listen to a fresh set of frequencies for broadcast DXing and two-way radio scanning in the next decade.

by Don Bishop

The decade of the 1990s promises to deliver some surprises for radio listening enthusiasts. New bands, new modes and new communications services offer an explosion of good DXing and monitoring times. Let's start with the AM broadcast band and move up to the gigahertz region:

Broadcast Band DXing

- **New band** -- Expect to hear new stations on the AM expanded band from 1610 kHz to 1700 kHz. Present broadcasters and broadcaster wanna-be's are tussling with the FCC over who will get rights to use the new frequencies.

  International agreements under the 1979 World Administrative Radio Conference (WARC) allocated the frequencies for broadcasting, effective July 1. But even with ten years to work on it, the Federal Communications Commission (FCC) has yet to take action, beyond soliciting public comment on how the frequencies should be parcelled out.

  Some ideas have included allowing present daytime-only broadcasters first crack at full-time licenses on the expanded band. Other ideas have included national assignments, whereby one or more individual channels would be assigned to the same owners. The national assignment could be used to build a single-frequency network to cover the entire country.

  Stan Salek, a staff engineer with the National Association of Broadcasters (NAB) in Washington, DC, said the trade association expects the FCC to issue proposed rules within a few months. In Region II, an area defined by the International Telecommunications Union to include North and South America, the power limit for the AM expanded band is 10,000 watts. “That is the maximum,” Salek said. “In border areas near Canada and Mexico, stations will have to use less power.” To reduce mutual interference, stations in other areas of the country may have to use less power, too.

  Because the band is new, DXers of the 1990s have a once-in-a-lifetime opportunity. Stations will come on the air one by one. As they do, you can find them and confirm them before the band becomes too crowded. There will be no other opportunity for broadcast DXing like this one, perhaps for the next century.

  Although currently silent, KA2XXB, 1660 kHz, will reactivate in the new band starting in February. At that time, it will begin test broadcasts and continue them for eight months to a year. The station is operated by the National Association of Broadcasters (NAB) from Beltville, Maryland, under an experimental license. Its purpose is to test the effectiveness of an elevated ground plane and an anti-skywave antenna.

  Several DXers were able to log KA2XXB during the ground plane tests in 1989. The station is now on the air with engineers reconfiguring the antenna for anti-skywave tests. NAB staff engineer Kelly Williams said the station will broadcast sporadically at first when anti-skywave tests begin. Initial transmissions will involve impedance measurements and antenna mast tests.

  “Once we start into the regular test schedule we will be on for fixed periods,” Williams said. “The plan is to hook up a timer to alternate periods in a normal AM mode and then in an anti-skywave mode.” For example, KA2XXB may broadcast for five minutes in normal mode, then ten minutes in anti-skywave mode, in a repetitive pattern.

  A successful anti-skywave antenna suppresses signal in a certain direction and at a certain elevation above the horizon to protect a distant station from interference. At the same time, it delivers signal along the ground in that same direction to serve local listeners.

  The station will be active mostly during evening hours, Williams said. He estimated the schedule might be 7 p.m. to midnight, with variations due to sunset times and other reasons. DXers can send reports to the attention of Kelly Williams at the NAB, 1771 N St. NW, Washington, DC 20036.

- **New Mode** -- AM DXers will benefit as a new broadcast mode developed by Leonard Kahn proliferates. Kahn, who heads Kahn Communications, makes equipment for AM broadcasters that virtually eliminates distorted reception caused by nighttime fading. Kahn calls the mode “PowerSIDE modulation.” It is a form of independent sideband modulation that resembles stereo and compatible single-sideband (CSSB) broadcasting. It raises the power in one sideband by three times and takes off audio pre-emphasis on the strong sideband, placing it instead on the weak sideband.

  Listeners with SSB receivers or continuously tunable receivers can listen to the strong sideband without the annoyance of pre-emphasis distortion. On continuously tunable receivers, the audio fidelity is roughly doubled.

  On digital radios, the mode reduces selective fading, antenna null distortion and re-radiation problems. One result is better

The Caribbean Beacon is already on the new expanded AM band. It broadcasts on 1610 from the island of Anquilla with 50,000 watts, covering parts of North and South America and West Africa, in addition to the Caribbean islands.
nighttime reception over a wider area — good news for DXers. A partial list of stations using the new modulation method appears elsewhere in this article.

**New receivers** — Denon America, Parsippany, New Jersey, introduces a new line of AM receivers this month that include a wideband filter designed to deliver high-fidelity AM. The receiver is the result of a joint effort by the NAB and the Electronics Industries Association to improve AM reception. This same effort, under the banner of the National Radio Systems Committee (NRSC), resulted in new technical standards for AM transmitters and recommended filter design for AM receivers.

Denon is the first manufacturer to respond to the recommendation. "We played around with AM stereo," said Robert Heiblim, the company's executive vice president. "But to have stereo with a receiver bandwidth of 4 kHz — what's the point?" Instead, Denon is betting on improved fidelity as a stronger selling point with consumers. "The difference with music is remarkable," Heiblim said. "Even with talk programs, focus groups said the wider band receiver is much better to listen to."

Denon makes home and auto radios with the new wideband, hi-fi AM capability. To find a dealer near you, call Denon at 201-575-7810.

**Meteor Burst Communications**

Many companies are scrambling for a share of the burgeoning truck tracking and communications market. Regional and national motor carriers can trim costs when they know where their trucks are at all times and they can communicate with the drivers. Qualcomm, Geostar and others use orbiting satellites. Motorola uses its network of 800 MHz repeaters. But two companies use meteor burst communications that can be picked up by VHF receivers.

In Marion, Massachusetts, Transtrack operates a meteor burst control center in what once was the administration building for British Marconi's longwave coastal station. Its network of five remote-controlled base stations is partially complete. The 1990s will see a rollout of service on 43.92 MHz, where base stations transmit a continuous, 2,000-watt probe signal.

The base station reaches a mobile unit when the signal bounces from a trail of ionized particles left by dust-particle-sized meteors that vaporize as they enter the upper atmosphere. The meteor signals produce "pings," or strong signals of short duration — from tenths of a second to several seconds long.

But you don't have to wait for "pings" to hear the station. With this year's exceptional sunspot activity, the base station probe signal will be heard over wide areas mostly during daylight hours, thanks to refractions from the ionosphere.

The meteor burst stations carry no voice communication, only data. But when you hear the continuous signal or the "pings" on 43.92 MHz, you are hearing one of the most unusual communications stations for the 1990s. Reception reports go to James Feeney, Transtrack, 13 Marconi Lane, Marion, MA 02738.

Pegasus Message, Herndon, Virginia, operates a similar system with a base station probe signal on 49.595 MHz. Reception reports go to Carlos Roberts, Pegasus Message, 13873 Park Center Road, Herndon, VA 22071.

**Radio Data System**

FM broadcasting in the 1990s will be reshaped by a European development, "radio data system" (RDS). RDS adds inaudible, digitally coded information to FM broadcasts. The codes identify program types, networks and frequencies and can carry traffic information and personal messages.

You'll be able to set your radio to find automatically, the music or other program you want to hear. For example, the European Broadcasting Union (EBU) has allotted 30 codes to identify news, current affairs, information, sport, education, plays, culture, science, variety, pop music, rock music, light music, light classic music, other music and 15 other types.

The 31st code alerts listeners to distress messages, such as pollution, a chemical leak or other hazards.

The RDS traffic announcement identification feature actually takes control of your car radio to interrupt a program, cassette, compact disk and to switch your radio on if it is off, to inform you of a traffic jam, accident, construction zone or other hazards that could endanger or delay you. When the announcement finishes, your programs returns or the radio switches itself off.

In Great Britain, a pilot experiment involves five local BBC networks and links traffic information sources such as police, road and railway authorities, air and sea navigation officers. These sources use computers equipped with BBC software to send information to a newsroom computer at the BBC traffic center at Broadcasting House in London. Processed messages will be made available to local stations via computer screen for announcers to read on the air or will be broadcast by the BBC traffic center over RDS. The experiment will continue until April of this year.

RDS equipped radios can also display identification numbers that tell the listener what program he or she has tuned. With "phone-in" programs, the radio can display a telephone number. Perhaps advertisers will make use of the feature to display addresses and product names, too. Written messages are not intended for car radios, though.

RDS will allow you to select specific programs. For example, you do not want to miss a lunchtime news or feature program. But you fear that, your mind diverted by preparing the meal, you may forget to switch on the radio at the right time. At the appointed time, the program item number feature will switch your radio automatically, as well as a recorder, if you wish.

RDS will automatically adjust your clock, taking into account local time differences, daylight savings time and dates. It adjusts the
receivers equipped with special decoders, such as FM broadcast pagers, audio reader services for the blind, stock quotations, physicians information service and others. Under certain conditions, digital data and analog signals can be transmitted simultaneously in a single FM channel without interference.

The motivation for RDS development is clearly European in origin. Many FM stations on the continent have small coverage areas and carry the same program, network-style. When you leave the coverage area of one station, you have to tune the radio to find another carrying the program you just lost. RDS not only finds the station for you, it finds the best frequency for reception.

As you drive a few miles, your RDS radio may change frequencies several times without your noticing. It scans the FM band, recognizes stations on the same network and automatically tunes the frequency with the best reception at any given time. Though valuable in Europe, this feature may offer little to American listeners. Aside from National Public Radio network affiliates, few U.S. stations within a geographical region simulcast network programs.

The European Commission is studying the possibility of equipping car radios with a small computer fitted with a decoder to enable the driver to identify himself and indicate his position on the road. The driver then would receive only relevant traffic information or even personal messages.

Twenty European, Japanese and American manufacturers have developed prototype receivers for the car and home. They cost about $600. RDS was presented for the first time in the United States in March in Washington, DC, during the Sixth World Conference of Broadcasting Unions.

Digital Audio Broadcasting

Broadcast sound quality equivalent to that of a compact disk may one day be delivered via digital audio broadcasting (DAB). DAB initially was intended for satellite broadcasting. But terrestrial applications have been found.

A pilot experiment conducted by EBU in Geneva, Switzerland, included a transmitter on Mt. Splew and two radios in two cars driven about the town. The experiment produced conclusive sound quality improvements.

Digital transmission is insensitive to spurious noise and parasites. The decoder recognizes only the wanted signal. DAB thus could help clean up the FM band by eliminating the effects of unwanted interference.

Unfortunately, DAB is incompatible with present broadcast modulation. All receivers currently in use would have to be replaced. Incompatibility has spelled doom for many other broadcast innovations.

220 MHz Two-Way Radio

An entirely new band for monitoring and scanning enthusiasts to tune in the 1990s may develop if and when a federal court sustains the FCC decision to reallocate it from amateur radio to private land mobile radio. Hams currently use the lower 2 MHz of the 220 MHz to 225 MHz band for control links, packet data communication networks and weak-signal communications. The FCC reallocated that spectrum for the use of private land mobile radio communications, a decision that is being appealed in federal court by the American Radio Relay League and the U.S. Department of Justice.

If commercial interests prevail, a band plan submitted by United Parcel Service (UPS) my form the basis for channel assignments in the new band. Under the UPS plan, the band would be divided into 200 channels consisting of 5 kHz wide frequency pairs.

Channel 1 would be centered at 220.0025 (base)/221.0025 MHz (mobile). Channels would be consecutively numbered so that channel 200 would be centered at 200.9975/221.9975 MHz.

The plan does not spell out a modulation mode, such as AM or FM. But the 5 kHz channel spacing limits the possibilities. For example, voice communication is likely to use amplitude compressed single-sideband (ACSSB). ACSSB is a form of single-sideband that uses transmitter audio compressors and receiver audio expanders. The word "compressed" is a contraction of "compressor" and "expanded." Compressing reduces receiver noise, much the way Dolby stereo reduces tape noise.
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Prices apply at participating Radio Shack stores and dealers. NOTE: You must have a valid FCC Amateur Radio License to legally transmit with this transceiver.

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Along with the noise, the transmitter sends a pilot tone that automatically tunes the receiver so the sideband signal always sounds natural, never off-frequency. The signal cannot be monitored effectively with FM or AM scanners, but receivers equipped for single-sideband reception can receive ACSSB. The pilot tone may cause a heterodyne. An ACSSB receiver filters out the pilot tone. The compressing may sound excessive on a receiver not equipped with an expander.

Data communication may use a digital modulation or might ride an ACSSB signal. Either way, an appropriate decoder will be necessary to monitor data communications on the new band.

Some of the channels will be trunked, further complicating monitoring efforts. Trunked two-way radios automatically select open channels from a group of five or ten or more. AS system computer uses a data stream to control mobile unit frequencies, sending them to open channels. Monitors without similar computer capability have to use multiple receivers or scan the channel group to follow a series of communications or conversations.

Monitoring commercial communications on the 220 MHz to 222 MHz band in the 1990s will be much more difficult and challenging than monitoring the hams in that band has been.

800 MHz Public Safety

A frequency band the RCC allocated in July 1986 will see its first occupants in the 1990s. Tune the 866 MHz to 869 MHz band for repeater outputs and simplex channels. Repeater inputs are from 821 MHz to 824 MHz.

Many of the systems will be trunked, complicating monitoring efforts.

Although the channel centers are spaced every 12.5 kHz, the channels themselves are 25 kHz wide. This means adjacent channels and not used in the same area, because they overlap. The FCC at first wanted to assign channels 12.5 kHz wide. It compromised with public safety users who wanted to ensure the new band’s equipment would be compatible with older equipment built for channels 25 kHz wide. Furthermore, they wanted the wider channels to accommodate data transmission and digital encryption, communications that channels 12.5 kHz wide could not support as effectively.

Adjacent channels are used only with proper geographic separation. The national public safety radio frequency coordinator, the Associated Public-Safety Communication Officers, New Smyrna Beach, FL, helps public safety agencies to select frequencies that avoid interference.

These frequencies are governed by national and regional plans developed by the users under FCC direction. No frequencies are assigned in a given area until the FCC passes on the area’s regional plan.

Many of these channels will be activated quickly in large urban areas. They may remain vacant for many years to come, and maybe beyond the turn of the century, in less populated areas.

1.7 GHz to 2.3 GHz

Sometime in the 1990s, if Millicom has its way, you'll hear "personal communications network" (PCN) signals in the 1.7 MHz to 2.3 GHz band – or maybe you won’t.

PCN will be the "buzz acronym" of the '90s. Broken down to its most basic level, it means you will have a personal telephone number. No matter where you are, anywhere in the country (and eventually, some say, the world), anyone may telecommunicate with you by calling your personal telephone number.

If you're at work, your office phone will ring. If you're in your car, your mobile telephone will ring. If you're on a hike, your portable telephone will ring. If you're at a friend's house, your friend's phone will ring (the call's for you). If you're in the movies, your pager will beep (or vibrate).

The network will "find" you wherever you are — if you want to be found.

PCN is an extension of the integrated services digital network (ISDN), the latest generation of public telephone services that includes broadband voice, video and computer communications.

New York-based Millicom has asked the FCC to set aside spectrum to develop a PCN. Its backbone will be a cellular telephone network similar to the one in place today. The difference will be smaller cell coverage on the order of 200 feet to 500 feet per cell. Present cells cover a half-mile to several miles or more.

Listening to the PCN may be next to impossible. One form of modulation proposed is code division multiple access, a form of spread spectrum modulation. Spread spectrum modulation is characterized by its high level of security. It cannot be detected, intercepted or jammed. By way of contrast, FM communications that today's receivers and scanners are built to monitor can be detected (you know when a signal is there), intercepted (you can listen to what is being said) and jammed (a transmitter on the same frequency can prevent communication).

Spread spectrum offers the level of security that PCN users will demand. We can tell you when such a network goes into operation, but some advances in monitoring technology will have to be made before we can tell you how to listen in!

- From the AM broadcast band up to 2.3 GHz, the 1990s will offer several unique and quite a few unusual opportunities for DXers and monitoring enthusiasts. With new bands at 1600 kHz, 800 MHz and perhaps 1.7 GHz, you’ll have the chance to be among the very first to hear new stations as they come on the air. Early years of the new decade will correspond with high sunspot activity to bring you signals at higher frequencies than ever, including the new meteor burst truck tracking and communications stations. The '90s will be a great time for listening.
**Uniden CB Radios**

- **Uniden®**, the largest manufacturer of CB radios, offers a variety of models to choose from. Whether you're looking for a basic transceiver or a more advanced scanner, Uniden has a model to suit your needs. Prices start at $99.99 for a simple transceiver and can go up to $399.99 for a high-performance scanner.

**Uniden Cordless Telephones**

- **Uniden®**, a leading manufacturer of cordless telephones, offers a range of models from basic to high-end. Prices start at $99.99 for a basic model and can go up to $399.99 for a high-end model with advanced features.

**Extended Service Contract**

- If you purchase a scanner, CB radio detector or cordless telephone from a vendor in the continental U.S. or Canada, you can extend the warranty for an additional two years. This extends the warranty coverage to 3 years in total. Prices start at $39.99 for a scanner, $59.99 for a CB radio detector, and $99.99 for a cordless telephone.

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**New Products**

- **Bearsat®** introduces new products to the market. These products are available for a limited time and offer discounts that can be applied towards the purchase.

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**BUY WITH CONFIDENCE**

- **Bearcat®** offers commitment to quality and reliability. The product is designed to last and is backed by a warranty. Prices start at $39.99 for a basic model and can go up to $399.99 for a high-end model with advanced features.
PREPARING FOR THE WORST WITH RADIO

S
sometimes it takes a hurricane or an earthquake to remind us how much our high-tech world depends on a thin little wire that plugs into the nearest power station. Recently in the Carolinas and again in California, Mother Nature severed our electrical umbilical cord.

Easterners watching ABC network television shortly after the earthquake saw a local San Francisco newscaster explaining how fellow residents should turn the gas off in their homes in order to prevent fire. She even noted the page number in the phone book where quake victims could find additional information.

All this seemed admirable public service until you realized that most of the people who could smell gas weren't watching TV. They didn't have electricity. In the dark, literally, and in need of advice and information, they remembered the value of a long undervalued gadget -- the radio. Fortunately, it still worked.

For most people, market leaders such as KGO-AM (despite losing most of its antenna array) and CBS' KCBS-AM became the main source of information. Many stations went on auxiliary power and reporters called in on regular and cellular phones.

KABL-FM/AM engineering manager Dennis Gooch and his assistant literally camped at the station's studio/transmitter site to ensure that the beautiful music station stayed on the air. Gooch was riding with General Manager Mike Grinsell about 250 miles from the station when the quake hit. They felt the vibrations and assumed it was a flat tire.

"We pulled over and I thought, 'Oh God, I'm with the GM. That means I'm going to have to change the tire,'" he recalled.

Still, Gooch considered himself fortunate. His station received minimal damage and he was prepared for disaster. But how about you? Owning a scanner or shortwave receiver is not enough. You've got to be prepared for the worst.

Preparing for the worst does not necessarily mean preparing for Armageddon. It can be an unforeseen event where using your radio might help you to make a better informed judgment. For example, if the lights were to go out in your home right now, would you, could you, use your radio to help you find out what was happening?

The first thing to keep in mind is that your radio requires power. It sounds obvious but you'd be surprised by how many people are caught by surprise when the radio won't turn on. The first thing to go in most disasters -- whether a car knocks down the utility pole at the end of the street or the Bulgarian Army launches a ground assault on the east coast -- is the power. Your radio should have an alternative source of juice.

Owners of battery-powered radios should not be smug. Batteries don't last forever and without the 115 surging through the wall outlets to recharge them, you'll be in as bad a shape as your neighbor in a handful of hours. Making sure your radio can operate off the car battery is one way of extending the useful life of your radio during a disaster.

Some people may wish to go further than this by investing in long-term alternative sources of energy like generators or solar panels. Both can provide other benefits, such as lighting, as well.

A good frequency list is something else to consider. Depending on the radio you are using, all those prime channels you stored in the unit's memory could be lost when the electricity blinks out. Even if your radio has a battery back-up and a mind like a steel trap, it still makes good sense to have an emergency frequency list handy. "Handy" means stored in the place where you would likely take refuge in time of emergency.

We've started a "disaster" frequency list for you. And we've left room for you to fill in the important local channels. And by the way, don't feel the least bit embarrassed about putting this list together and storing it in a safe place. We know a lot of Monitoring Times readers from the Bay Area who say that they would have killed for one on the 17th of October, 1989. They couldn't get to their frequency directories when they most needed them. Their houses had collapsed over them.

There are literally hundreds of ways you could prepare for disaster, many related to radio and many not. Of all the people who wrote to us following the San Francisco earthquake, virtually all wished for a source of reliable light. Many others made suggestions on the physical day-to-day placement of their equipment so that it would be more accessible if and when disaster strikes.

By owning a scanner and/or shortwave radio, you already have the jump on your neighbors. And that very radio -- the same one that can provide you with so many hours of uninterrupted entertainment -- can also give you the ability to make more intelligent, informed judgments in time of trouble.

Let's close with one simple example -- one that's very plausible and hardly sensationalistic. Your local radio station interrupts its programming to say that a freight train carrying some sort of unidentified chemical has derailed just south of town. The town fathers say that there is no need to do anything other than stay calm and remain in your house.

Are these people telling you everything they know? Is what they know enough? Do you trust the lives of your family and friends to their judgment?

You can find out for yourself by simply turning on your radio. If your radio works and if you know where to tune. Making the right decision could be the difference between life and death. Making sure that there are fresh batteries on hand is one step you can take and a small price to pay for that information.

1 Chicago Tribune (Eleanor Randolph); 2 Broadcasting; 3 Radio World;

Suddenly you are without power. Where's the radio? Does it have batteries? Your life could depend on it.
Disasters -- whether manmade or natural -- come in many forms. Hurricanes, aircraft accidents, oil spills, ship collisions, tornadoes, floods, earthquakes, explosions, fires, dam breaks, hazardous spills and more threaten our daily lives. Listening in on related communications can provide insight, drama and pathos.

A list of local police, fire, medical, forestry, government, business and industrial assignments should be within reach of every scanner owner. Such lists are often available from local scanner dealers. An up-to-date directory like Police Call (available from Radio Shack stores nationwide and Grove Enterprises) will provide not only specific assignments in your area, but general allocations for you to search in case of an incident.

For shortwave monitoring, the new Shortwave Directory from Grove Enterprises, from which most of the HF listings below have been extracted, contains a wealth of valuable frequency information and is highly recommended.

Some channels are used nationwide. It wouldn't be a bad idea to program some of these ranges into your own scanning and shortwave receivers just to have an edge on disaster information. All frequencies shown below are in megahertz.

### Where to Listen in an Emergency

<table>
<thead>
<tr>
<th>Police mutual aid</th>
<th>155.37</th>
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<tbody>
<tr>
<td>Local:</td>
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<tr>
<th>Fire mutual aid</th>
<th>154.37</th>
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<tr>
<td>Local:</td>
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<tr>
<th>Hospitals</th>
<th>155.340, 462.950-463.175</th>
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<tbody>
<tr>
<td>Local:</td>
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<tr>
<th>National Weather Service broadcasts</th>
<th>162.40-162.550</th>
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<tr>
<th>NOAA hurricane hunters</th>
<th>6.673, 8.962, 9.011, 11.396, 13.354, 122.925, 123.050, 304.8</th>
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<tr>
<th>Aircraft emergency and rescue</th>
<th>121.5, 123.1, 243.0</th>
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<tr>
<th>Airline flight weather</th>
<th>6.604, 13.270, 13.282</th>
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<tr>
<th>Civil Air Patrol</th>
<th>4.4675, 148.15</th>
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<tr>
<th>Federal Aviation Administration</th>
<th>6.870, 8.125, 13.630, 16.348, 20.852</th>
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<tr>
<th>Federal Emergency Management Agency</th>
<th>5.211, 10.493</th>
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<tr>
<th>American Red Cross</th>
<th>47.42, 47.46</th>
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<tr>
<th>Amateur two-meter repeaters</th>
<th>145.11-147.39</th>
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<tr>
<th>Federal Protection Service</th>
<th>415.200, 417.200</th>
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<tr>
<th>U.S. Coast Guard</th>
<th>2.182, 2.670, 3.203, 5.680, 5.692, 5.696, 8.984, 156.8, 157.05, 157.10, 157.15, 381.8</th>
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<tr>
<th>Offshore petroleum drilling platforms</th>
<th>4.6375</th>
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<tr>
<th>NASA space launch support</th>
<th>5.190, 5.810, 10.780, 20.198</th>
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<table>
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<tr>
<th>Space Shuttle</th>
<th>259.7, 296.8</th>
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Have you ever listened to a ham radio operator and wondered what he looks like?

I'm sure you must. I do. It was this curiosity that led me to the doorstep of Brent Bogdanski, XE2VJD.

Those who have sailed the Sea of Cortez in the last few years will undoubtedly know of whom I'm speaking. But if you don't, let me introduce you.

Brent runs the Chubasco Net, a net designed to pass traffic to and from sailors cruising in Mexican waters. From his hillside home in Guaymas, Sonora, Mexico, he broadcasts daily on 7.294 (40 meters) at 1530 GMT.

XE2VJD is not the slight, dark-haired person with pencil moustache that I had pictured. Instead, I found him to be over six feet, weighing in at approximately 165 pounds. His light brown hair lies in curls atop his head, lending a beige hue to his gray-green eyes. His moustache is far from thin. His upper lip bears the weight of a bushy protrudance of hair befitting the grandest of walruses.

Attired in coordinated sweats, he casually greeted me, led the way to the breakfast bar that divides the kitchen from the dining room, and for the next few hours we talked about the net and his participation in it.

Brent first became interested in ham radio in 1981 after he moved from Southern California to Mexico. In 1978, after 18 years in the Los Angeles County Fire Department, he was forced to retire on a job related disability. It wasn't long before he became involved in the cruising community and was introduced to ham radio. He got his novice license, bought a ham radio and began to spend a good deal of time listening to the various nets -- but was unable to transmit.

"I listened to the Baja Net every day and I'd sit there frustrated that I couldn't grab the mike and talk because I couldn't, legally, only having a U.S. Novice." However, in 1984, the Mexican government began issuing provisional permits to U.S. licensed operators. Brent was one of the first to apply.

"I introduced myself to the Baja Net and volunteered my services of being a relay. I was up just about every day. After a while the manager of the net, W6IM, began calling me the Southern Net Control for the Baja Net."

Brent started coming up twenty minutes early to gather on-site weather in cooperation with Pat, N6DJI, relaying the reports that Pat was unable to hear. This developed into an early bird session for which he set up his own format.

Quarterly meetings for the Baja Net were held in Southern California. Unable to attend the meetings held 800 miles away, Brent made his contribution by mail.

"I wrote letters about how I thought the net could be improved. Primarily, suggestions came from the cruising community using the net . . . how certain net controllers seemed to show favoritism to certain people. The people had a feeling that the Baja Net was a good ole boys' net. And, if you weren't a good ole boy, you just sat and waited 'til the good ole boys got done talking and then you got picked up."

Over the air Brent encouraged those cruising in Mexico to apply for the newly-established Mexican provisional license, informing them that by continuing to use their American call signs they were operating illegally in Mexico.

Dissension developed among the troops.
The long-established net control operators of the Baja Net asked Brent not to call himself the Southern Net Control Operator... he was merely to say the Southern Relay. They asked him not to slop his early bird session over into net time, which he sometimes did; and they disagreed with Brent on the necessity for cruisers to obtain a Mexican call sign.

"At that time they were still handling U.S. calls that were in Mexican territorial waters but had not obtained their Mexican calls. So they were actually handling pirates. It had been two years that the Mexicans had had their program in operation."

In June of 1986 the controllers of the Baja Net put the Mexican Provisional License under the microscope. For starters, they had it interpreted from Spanish to English. After studying it, they concluded that voice privileges were not permitted in Mexico to those holding less than a general class ticket.

Wrong, said Brent. "The license clearly states that all licensed amateurs will receive Class 2 privileges, which includes voice privileges, anywhere on the prescribed band."

The disagreement continued. Brent wanted U.S. licensed hams traveling in Mexico to get their XE2s and the people on the Baja Net wanted Brent and all the XE2s holding only a novice or technician license to upgrade to general. An ultimatum was finally given . . . upgrade or get off the air!

"They wrote and told me that beginning October 1 they were only going to handle XE calls that had general U.S. class licenses or above and they knew that I could upgrade as they all had."

One thing that becomes evident after talking to Brent is that he does things because he wants to, not because he's told to, especially when he knows he's right. "I just said to myself, 'the hell with it'. Nobody is going to tell me that I have to upgrade to general when I live in Mexico and I'm operating legally."

Brent wasn't the only person who disagreed with the new ruling. "A number of people said, 'To hell with them. Let's form a new net that will go by the rules.'" In August of 1986, Brent checked into the Baja Net to say goodbye.

"I came onto the Baja Net and did my farewell. I put out a QST and told them that due to irreconcilable differences I would no longer participate in the Baja Net and that anybody who wanted to talk to me, I would be on a new net called the Chubasco Net."

The next day the Chubasco Net began.

The net derives its name from a rapidly moving, violent storm that is unique to the Sea of Cortez and it was in that manner that the Chubasco Net was born -- out of a tornado of controversy.

Today almost all cruisers in Mexico hold XE2s, but there are still a handful of holdouts operating with their American call signs. But you won't find one on Brent's net.

Presiding over the net on a daily basis has allowed Brent the privilege of running it his way and Brent operates a controlled net. He holds the reins.

The morning preamble opens the net each morning.

Brent charges out of the starting gate with the rules of order and that's exactly what they are for -- to maintain order.

The rules are simple, though on hearing them for the first time they may seem overwhelming. And every morning within the first 15 minutes someone goes up. It never fails that sometime during the net some laskadatical operator will rearrange the net incorrectly. Those of us listening can see the hairs raise on the back of Brent's neck. We wait for the inevitable reproach.

In a normal conversation Brent has a strong voice. When you push his button, it develops an edge. Now comes the true test of man or womanhood. After a public scolding, will the offender of the airwaves come back or will they merely melt into the woodwork to wait for another time or maybe even another day?

I asked Brent why he thought people find it so hard to follow the protocol.

"A lot of people don't listen. They've probably heard the preamble a number of times, but they're sitting in the cabin having coffee, talking to their wives, and not listening to what the net controller is saying. They're not listening to what the protocol of the net is."

For those new to the net and for some old-timers their words seem harsh. They sound especially strong if they are directed toward you. And, believe me, there isn't a Chubasco Net entree alive and breathing who has escaped the wrath of Brent. Checking into the net for the first time is an intimidating experience.
But from his side of the mike Brent sees it differently. He doesn't feel he's being harsh. "To me it's an education. I don't try to berate anybody."

There are those that are told time after time but continue to enter the net with a laissez faire attitude. And Brent admits that these people push his button.

Brent has a wide listening audience. His fury and strict adherence to the rules is a favorite topic among cruisers. If the happy hour conversation begins to lag, the subject of Brent is sure to liven things up. Staunch supporters of equal rights for women are offended by Brent's use of the terms "dear" and "got you going, girls."

The troubles people get into are viewed by some as a comic soap opera, "As the Dial Spins." The element of suspense -- who will be next? -- keeps people coming back for more.

People also listen and participate because Brent runs a good net. Accompanied by an impressive list of two-ways and relays from the western United States, approximately 350 pieces of traffic are passed each week. He follows up on inquiries, gets people connected, and is proud of the high percentage of traffic he completes.

"I hate like hell when somebody comes back, says 'recheck'. I acknowledge and they come back with 'well, we went up to 20 meters and we were up at 290 and there was a QSO going on and...'. That irritates me no end. You see, I don't give a damn what you found where you went when you went. All I want is to get you with your station and back again. I don't need to know what happened up there."

Running the Chubasco Net seven days a week is as rewarding as it is frustrating. Brent can take a lot of credit for keeping people in touch with friends and family. He has handled numerous emergencies at sea to the point of saving lives and, as a veteran firefighter and ex-captain of the paramedics, he is qualified to do the job.

Also, in cooperation with the Chubasco, Sonrisa, and Shriner's Nets, he has set up a fund for sending crippled children in Mexico to the Shriner's Hospital in Los Angeles for corrective surgery. Donations come in mostly from the yachting community.

Running the Chubasco Net has been a gratifying experience for Brent and, as long as it remains fun, he will continue to rise with the sun in order to direct traffic from the busy intersection he has created in the Sonora Desert of Mexico. And, as long as he tunes up on 7.294, the controversy will continue.

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"Sorpresas y Regalos en el Kiosko de Radioscan"
Namibian Voices

by Charles Sorrell

"Independence or death! SWAPO will win and Namibia will be free!"

The rallying cry of the Southwest Africa People's Organization appears to be coming true at long last.

The struggle for Namibian independence can, in some ways, be traced back to 1908 when 84,000 blacks were killed in a revolt against the Germans. Germany had proclaimed a protectorate over the southern coastal town of Luderitz in 1884 and soon extended the protectorate over the entire territory.

South Africa occupied Namibia during World War I. Like some distant aunt of which one is barely aware, it dropped in for dinner one day and never left. Southwest Africa was placed under South Africa's administration by the League of Nations following the First World War and Pretoria governed the area through World War II.

Then the United Nations called for the area to be placed under UN trusteeship, but South Africa refused to surrender its old League of Nations mandate and has continued to run things ever since.

The UN adopted the Namibia name in the 1970s and recognizes SWAPO as the "sole and authentic representative of the Namibian people."

When independence came to Angola in 1975, factors came into play which had a direct bearing on the desire of South Africa to maintain its hold on Namibia and which helped delay the process of independence even longer. Angola's Marxist government allowed the SWAPO guerrillas to operate.

The Southwest Africa People's Organization produces the Voice of Namibia which several African stations broadcast daily.
from its territory, thus giving them a safe haven from which to launch raids against South African forces in Namibia.

Eventually South Africa retaliated, launching raids against SWAPO within Angola. And eventually there came South African support for the UNITA guerrillas fighting against the Luanda government and the Cuban military force serving to help keep that government in business.

South Africa has never been anxious to relinquish its control over Southwest Africa. Pretoria doesn’t want an independent Namibia hosting the guerrilla forces of the African National Congress and allowing that group to operate against South Africa from Namibian territory. SWAPO leader Sam Nujoma (who returned to Namibia last fall after a near 30 year exile) says such activities won’t be permitted in an independent Namibia.

South Africa also wants Cuban troops out of Angola and refused to take any steps towards an agreement on Namibian independence until at least a time table for the withdrawal of Cuban troops had been agreed to.

Many of these elements came together over the spring, summer, and fall, helped to some degree by the fact that South Africa did see some advantage to getting its troops out of the territory. International pressure for Namibian independence was increasing and maintaining troops there was an increasing drain on a slowly weakening economy.

Negotiations have led to a cease fire in the guerrilla war (though it has sputtered once or twice), the arrival of a United Nations Transitional Team to oversee elections (which occurred in November), and subsequent steps on the road to independence.

All along -- and even more so now that matters are reaching a head -- broadcasting has played a considerable role in the Namibian affair. The South Africans, the Namibians, other sympathetic African governments, the United Nations and one or two others are all using shortwave broadcasting, and North American listeners have a fair to good chance of tuning in on a lot of it. Here’s a look-see on radio’s role in and around Namibia:

The government broadcaster in Namibia is the Southwest Africa Broadcasting Corporation’s Radio Southwest Africa. On shortwave it uses two 100 kW transmitters and perhaps a third transmitter of undetermined power as well. Radio Southwest Africa airs two program services on shortwave:

Program One is listed for 3270 and 4930 from 1600 to 0630. This service consists of relays of two local language networks broadcast on mediumwave and FM.

Radio Herero is carried Monday through Friday at 0400-0440, 0610-0900, and 1300-1630; on Saturdays and Sundays at 0400-0505, 0830-1000, and 1300-1930.

Radio Damara-Nama is carried at 1000-1300 and 1630-1900 Monday to Friday and 0505-0830 and 1000-1300 Saturdays and Sundays.

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Table 1

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<tr>
<th>SWAPO &quot;Voice of Namibia&quot; Broadcasts</th>
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<tr>
<td><strong>Radio Nacional Angola:</strong> Monday-Saturday 1630, Sunday 1600, on 7245, 11955</td>
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<tr>
<td><strong>Radio Tanzania:</strong> Monday-Friday 1630, Saturday 1815, Sunday 0415, on 9750</td>
</tr>
<tr>
<td><strong>Voice of Ethiopia:</strong> Daily 2100, on 9595</td>
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<tr>
<td><strong>RDF TV Congolaise:</strong> Monday, Tuesday, Friday 1745; Wednesday-Thursday 1800, on 15190 (Note: this station is usually inactive.)</td>
</tr>
<tr>
<td><strong>Radio Zambia:</strong> Monday, Tuesday, Thursday 1830; Wednesday 1810; Saturday 1845; Sunday 1130 and 1830; on 9505</td>
</tr>
<tr>
<td><strong>ZBC Radio One, Zimbabwe:</strong> Monday, Wednesday, Friday 2100, on 5025 (very likely inaccurate frequency)</td>
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South African support for UNITA forces seeking the downfall of Angola's Marxist government was partly in retaliation for Angola's harboring SWAPO guerrillas.

Program Two is the national network in Afrikaans and German from 1600-0630 on 3290 and 4965. Afrikaans airs at 0400-0440, 0610-0900, 1100-1600, and 1700-1930 Monday through Friday and straight through from 0400-1930 on Saturday and Sunday. German language programming airs Monday through Friday only, at 0900-1100 and 1600-1700. Reception in North America will be limited to the 0400 period.

This fall a new Radio Southwest Africa channel appeared -- 7190 (7189.5 in practice) signing on in Afrikaans at 0530. The full length and content of this service hasn't yet been determined; it may be a new third shortwave transmitter or a move from one of the Program Two frequencies.

Reception reports can be sent to the Technical Services Department, Southwest African Broadcasting Corporation, P.O. Box 321, Windhoek 9000, Namibia.

The SWAPO opposition has had its "Voice of Namibia" going for some years now. Actually this has been a series of regular programs aired on several different government-owned African stations. From the evidence available, it appears that each program is produced by the local SWAPO office in each of the countries from which these programs are aired. Table I shows the most recently available schedule of SWAPO broadcasts.

None of these are easily received by North American listeners. The best shots -- and poor ones at that -- are via the Voice of Ethiopia or via Angola on 11955. The SWAPO program has been heard in North America, and QSLed. Reception reports go to the Voice of Namibia, P.O. Box 953, Luanda, People's Republic of Angola.

There is reported to be another "Voice of Namibia" -- apparently an actual station operating from Lubango, Angola, on 6050 at 0430-0800 daily and between 1300-2200 on weekends. While not certain, it figures that this, too, is a SWAPO broadcaster.

It shouldn't be a bit surprising that South Africa pays a lot of radio attention to Namibia. Present politics aside, the Namibian economy is closely tied to that of South Africa and most of the Namibian civil service is comprised of conservative Afrikaaners from South Africa.

Radio RSA beams several hours of programming to Namibia daily, in all of the appropriate languages. The current schedule for these is:

- 0300-0400 on 4965 and 6130 in Afrikaans
- 0500-0900 on 11805 in Afrikaans
- 0500-0700 on 7270 in Ovambo
- 0900-1000 on 11805 in German
- 1000-1100 on 11805 in Afrikaans
- 1100-1300 on 11805 in English
- 1400-1555 on 11805 in Kavango
- 1500-1800 on 11900 in Lozi
  (to the Caprivi strip)
- 1550-1755 on 4880 in Kavango
- 1600-2200 on 4945 and 6130 in Ovambo
- 1600-2200 on 4810 in Afrikaans

QSLs on any of these are easily obtainable from Radio RSA, P.O. Box 4559, Johannesburg 2000, Republic of South Africa.

The United Nations is also on the air from Namibia, though on the most minimal level. According to Radio Netherlands' Media Network, the United Nations Transition Assistance Group (UNITAG) now airs a five minute program on Radio Southwest Africa weekdays on 3270 and 3290 just after 0500.

No reports of hearing this in North America have yet been noted. Reception reports could probably be sent in care of United Nations Radio, United Nations Plaza, New York, NY 10017.

Finally, Swiss Radio International is reported to have a transmission intended for Swiss medical teams serving in Namibia. According to the Radio Australia "Communicator" program, this broadcast is in upper sideband over a 15 kW transmitter using 21705 from 2100-2200 with the first half hour in English, the second in Spanish.

This broadcast certainly exists but one must question why, if it is indeed intended for Swiss personnel, it is aired in English and Spanish.

There may well be one or two other Namibian-related shortwave broadcasts on the air, and readers who may be aware of such are invited to pass word to the editor via Monitoring Times.

Meantime, there's quite a bit here to chew on and we can surely expect additions or other changes as Namibia moves toward full independence.
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London Calling: "You're coming to Britain!"

by Cathy Turner

I couldn't wait to tell Chris. "Guess what, Kiddo, we're going to England tomorrow!"

Chris sat up. "Do I have to go to school today?"

Mr. Lee met us at Heathrow. With him was a chauffeur and a Mercedes limousine for our trip to Colchester (where Chris' grandparents, Mr. and Mrs. Lay-Flurrie, live). This was class -- this is the first time I've been in a limo that wasn't following a hearse.

At The Rose and Crown Hotel, everyone is excitedly waiting for the great moment. Chris runs up to Grandma. "Hello Grandma, hello Granddad. I'm your grandson!" Hugs all around. The photographer is ready. Snap! Snap! Everyone outside for more pictures.

Can we go to Grandma's house for more photos? Off we go again. Pose here, pose there, pose by the pond. Chris thinks it would be fun to drop a newt down the photographer's pants. The guy takes the hint. One last photo, and back to the hotel for lunch.

At lunch, Mr. Lee invites us on a sightseeing trip around London on Sunday. He'll take us out to dinner, too. What's Chris' favorite food? Dim Sum and steamed dumplings.

After lunch, it's time to crash. Chris and Daddy are roommates. Mom has a room to herself. Instead of giving in to jet lag, I unpack my shortwave radio, Monitoring Times, and WRTH. I scan the shortwave bands for a while, then longwave. Yes, there's BBC on 198 and Luxembourg on 234. On AM, there's Radio Caroline on 558, not to mention BBC's own domestic stations. I guess we're really in England.

After breakfast the next day, the receptionist brings Chris his mail. It's a parcel from the BBC. Inside are tee-shirts, bumper stickers, pens, balloons, a coffee mug, and other goodies. Chris is amazed and immediately pens a thank you note.

Grandma and Granddad are waiting to show Chris the town. Here's the Norman castle and the Roman wall, but Chris wants to read the "Dr. Who" book Grandma gave him. Fish and chips for lunch? Chris sees

A birthday greeting via radio led to this momentous first-time meeting between Chris Turner and his grandparents.

---

Never underestimate a nine year old. No one will ever know exactly what was going on in his head when he first began plotting Grandmom's birthday present. But even Chris could not have imagined that his letter would lead to an all-expenses-paid trip to England.

Chris began his work early. First, he conned his grandmother into sending him a copy of The Radio Times, BBC's domestic TV and radio guide. Upon receiving the guide, he picked out a radio program that Grandma would listen to. Then he wrote to the host -- "I am nine and a half years old. I have never been to England, nor met my grandparents, but I love them very much and have their photo by my bed."

Chris got the address for "Radio 2" from my World Radio TV Handbook, and mailed his letter to Grandma and told her to listen to Adrien Love on "Radio 2" on her birthday. Chris was pleased.

The Wednesday following that event we got a phone call at 7:00 a.m. It was Katy Elay of the BBC, and she wanted permission to release our name and address to a newspaper. It seems that a reporter had heard the birthday greeting, and was so touched by what he heard that he wrote an item in The Sunday Express. The next thing we knew, reporter Alfred Lee was on the phone with us, inviting us to England so Chris could meet his grandparents! Could we leave the next evening?
McDonalds. We end up at Grandma's house for tea.

While we are there the phone starts to ring. Anglia TV wants to send a mini-cam and reporter tomorrow morning for ITN News. Next, Radio Essex calls and tapes an interview with me. Another newspaper begs an interview for Monday morning. This is becoming a media event. Chris thinks it's hilarious.

Sunday morning. Here's Chris and Grandma on page three of *The Sunday Express*. I tell the news agent, "That's my son and my former Mum-in-law." I buy six copies!

Mr. Lee gives us the best tour of London. In Regent's Park, people recognize Chris; he autographs their newspaper. On the train back to Colchester more people are pointing him out, but Chris doesn't care. A long day of sightseeing and a tummy full of Chinese food have almost knocked him out.

Our last day in England is spent with the grandparents. A day to sit in the garden with a cup of tea. We've one last interview. Chris is an old hand at this by now. He tells this reporter he "thinks England is nice because there is very little pollution, and everybody is friendly." He's been a real little gentleman, and Grandma and Granddad are very proud. We invite them to visit us next year.

*The Sunday Express* even provided us with a limousine back to Heathrow. Chris enjoys talking with the chauffeur. This one is a big fan of "Dr. Who."

Chris is invited to the flight deck on our trip home. When an officer tells him they are in contact with Gander, Chris says he's heard Gander and Shannon on Mom's radio, and that he likes the term "Speedbird."

After the local paper did a feature on Chris' adventure, things settled back to normal. The entire experience didn't phase Chris at all. He still does all the usual kid things: plays "Nintendo" with his friends, complains about homework. I'm still amazed that the whole thing happened, but I must admit, I smile when the phone rings early in the morning.

Cathy Turner is a mother, a regular contributor to *Monitoring Times*, and now, world traveler. All photos are by Bob Turner.

If you have a story of how radio has played a part in your life or the life of your community, send it to *Monitoring Times*. If accepted for publication, we'll send you $50.00. All stories should be true, real life events. Manuscripts should be approximately 1,000 words and must include at least one clear photograph.

The Turners were put up in the Rose and Crown Hotel in Colchester, described as "the oldest inn in the oldest town in England."

*Right: Chris and Cathy Turner in London*
ANGOLA  Active shortwave stations as monitored: Benguela on 3354.7, 5040.2v, 6152.3v; Luanda on 3354.7 irregular, 3375.9, 5324.5; Huila on 4820.3; Saurimo on 4860.4 kHz (Vashek Korinek, South Africa, Play-DX)

ARGENTINA  An intellectual breakfast chat-show from northern Argentina was heard from fade-in at 1040 UTC to fade-out at 1120, on 3149.7; harmonic, or point-to-point relay? (John Campbell, Cook Islands, Radio Netherlands Media Network) It's the third harmonic of Radio Pucara, 1050, Reconquista, Santa Fe province, operating at 1000-0400 (Daniel Camporini, Munro, Argentina, Radio Nuevo Mundo)

Radiodifusion Argentina al Exterior has a new address: Calle Maipu 555, Buenos Aires, replacing Ayacucho 1556 (Gabriel Ivan Barrera, RN Radio-Enlace) During summer time, all RAE broadcasts are one hour earlier, so English hours are at 1630, 2100, 0100, 0300; heard at 2100 announcing two frequencies rather than one--15345 and 11710 (BBC Monitoring)

AUSTRALIA  Mike Bird, producer of propagation reports and Communicator suddenly announced his resignation in mid-November. Radio Australia's restructured programming now emphasizes a morning mix of short items, and a wide selection of feature programs in the evenings, Asian/Pacific time. Communicator has been rescheduled to Asia Friday at 10:30 and Sunday at 1430; to the Pacific Middle on Monday at 0730.

AUSTRIA  Shortwave Panorama, Sundays at 1430, is stronger now on 11780 than parallel 13730 and 21490 (Ernie Behr, Ont.) None intended for North America, while 21475 at 1130 is, but that's too early for the middle of the continent.

BANGLADESH  English external service from Radio Bangladesh has been monitored: 0800-0830 on 15195, 17855; 1230-1300 on 15195, 17850; 1815-1900 on 15255, 17805 (Supratik Sanatani, India, OzDX)

BRAZIL  Radiobras has gone commercial; one night at 0238 on 11745, a soap factory was offering to sell you equipment to make soap in 4-gallon drums in your backyard, which you could sell to friends and shops! (William Westenhaver, Montreal, World of Radio)

CANADA  In order to avoid conflicting with it own South American service, RC1 has retimed SWL Digest on its North American service half an hour earlier, UTC Sundays at 0038 on 9755, 5960. Unfortunately, it now conflicts with World of Radio on WRNO....

The winter schedule of the Northern Quebec Shortwave Service confirms it's cut back to only one frequency, 9625 kHz all the way from 1158 to 0609 UTC. Much of it is in French, Cree, Inuit, and native dialects, but there is still some English, especially weekends, including: Quirks & Quarks, Saturday 1700; The Media File, and Inside Track, Saturday 1800; Sunday Morning, Saturday 1400-1700; Air Farce, Sunday 0800, Best of Morningside, UTC Tuesday-Saturday 0300. All these actually start a few minutes later after the news (via Zack Schindler, MI)

CHINA  Radio Beijing's revised winter schedule to North America: 1100 and 1200 on 9665; 1400 and 1500 on 7405; 0000 on 9665 and via Mali 9770, 11715; 0300 on 17855 and via Mali 9770, 11715, Spain 9690; 0400 on 11695 via French Guiana; 0500 on 11840 via Canada (via The DX Spread)

COSTA RICA  Radio For Peace International has been reporting news from El Salvador sometimes quoting Radio Venceremos, around 2200 and 0230 UTC. The antenna for 21566 can now be rotated, favoring eastern North America in the afternoon, western in the evening.

CUBA  Radio Havana is again awarding five all-expenses-paid trips to Cuba to the winners of its essay contest; they'll spend two weeks touring the country; other prizes go the next 20 best essays, deadline April 30. This year's topic: RHC changed its programming on Sept. 8, 1988. How do you evaluate the change? You should write first for an entry form, to Box 7026, Havana (via Tom Kuca, NY)

CUBA Radio Havana has rescheduled to Asia Friday at 2100, 11710, 11845, 0900-0300; Saturday at 1700; 2200-2330; except Sun 1330-2300 with sports. Radio Havana de Cuba, 1600-1700, will be rotated, favoring eastern Americas.

DENMARK  The government has now agreed to fund the external service in 1990; plans may delay the start of relays via Norway until mid-January (RN Media Network) We've still been hearing Denmark direct at 1600 on 25850. Transmissions have already been cut to 25 minutes, but mostly during the first half of hours, rather than the second when Norway will put them on. So maybe this is your last chance to hear Denmark direct: 1530 UTC on 11845, 9942 on 15165, 1200 & 1300, 2000 & 2100; plus 5-10 minutes of news at 1200, 1300, 1400, 1500, 1800, 2100. Also heard in Santiago is a new station on 1613.6 variable, Radio Emisora La Brisa, in Lampa, 30 km away, giving call CB161 (Gabriel Ivan Barrera, visiting Chile, Radio-Enlace)

DOMINICAN REPUBLIC  As predicted last month, Radio Clarin has replaced 11700 with 9950-variable, heard at 2315 past 2330 with its own programming, and at 0130-0200 with anti-Castro programming from La Voz de la Fundacion, then back to baseball with Clarin (George Zeller, OH, AA*C-E)

Crystal for 9950 was obtained from Miami and antenna re-reregistered for new frequency; clandestine program from Cuban American National Foundation is daily 0100-0200; CANF is much larger organization than CID, and somewhat less hostile, headed by Jorge Mas Canosa, also deeply involved in setting up Radio Marti and TV Marti. Old 50 kHz transmitter initially run at 20-25 kHz, but still putting a good signal into Miami; will resume full power once transmission line is replaced. We also hope to bring back a tourist-promotion program in English with Rudy Espinal, like the old This Is Santo Domingo at midnight 0100, and another Cuban clandestine, La Voz de Alpha 66, busted repeatedly in Florida, hopes to go on this outlet at 0200 to 0230. (Jeff White, FL, RNMN; Radio Enlace)

ECUADOR  HCJB has made some programming changes. The
now once-weekly DX Partyline airs initially to North American Monday evenings, UTC Tuesday at 0200 on 15155, 11775, 9745 and 0600 on 11775, 9745, 6230, but listeners in other targets prefer to hear it on Saturday, so the repeats are then: 0800 on 9610, 0820; 0800 and 1030 on 6130, 9745, 11925; 2130 on 15270, 17790. The Doc 25-30 edition reflects on the beginning of HCJB 58 years ago.

Musica del Ecuador has moved to UTC Monday at 0200, 0530, repeated from Sunday at 0800, 1030, 1900. Saludos Amigos is now scheduled: Tuesday 0800, 1030, 2130, UTC Wednesday 0200, 0600. The January call-in is under the auspices of DX Partyline, pre-empting other programming for one hour, Jan. 20 at 0730, and UTC Jan 21 at 0200 (via Brent Allred, HCJB; John Norfolk, William Westenhaver) Because of interference problems, HCJB has tested 11900 instead of 11775.

On the Fox TV Network, Garry Shandling, Sunday night, recently used HCJB as the punch line of a joke; there have been other electronic references, and Shandling is a ham, listed in the callbook (Will Martin, MO, World of Radio)

EQUATORIAL GUINEA World of Radio has been carried on Radio Africa since October, Thursdays at 2030 on 7189 (or occasionally 9582.65 variable). It may start as early as 2002, as monitored by Ernie Behr in Ontario and Bob Hill in Massachusetts; also scheduled Saturdays at 1215 on Radio East Africa on 9585, but no programs on this transmission as early as 0500 are audible in North America. The station has been getting reports from its target area; however, unless we get substantial listener response direct from Africa and vicinity, we’ll be forced to conclude this experiment.

ETHIOPIA /non/ Clandestine activity abounds; new is Voice of the Broad Masses of Ethiopia (not Eritrea, name of a previous station), heard at 0300-0345 on 7880, a frequency also used by Voice of Tigray Liberation. Believed from Sudan are these: Radio Voice of Ethiopian Unity on 9540-variable at 0400-0600 and 1800-2000 in Amharic, Oromia, and Tigrigna. Former frequencies include 11180, 9435, 9425, 7100; it also announces 15789, 12000, 9677, 7142 and 5000 kHz, none observed (these happen to be exact conversions of 19, 25, 31, 42 and 60 meters); and Voice of Oromo Liberation, 9550-variable at 0330-0400 and 1630-1700; also around 9545, 9435/9440/9445 (BBC Monitoring)

GERMANY EAST One could hear Radio Berlin International evolving just as rapidly as DDR itself. The station director conceded that in the past RBI had emphasized the positive and minimized the negative, but pledged it would be objective from now on. Its opening and closing announcement changed from "building a state" to "rebuilding a state." The revised winter schedule of English to North America, half-sesquihour broadcasts: 2200 on 9730; 2245 on 9730, 13690; 0045 and 0200 on 6080, 11890, 13690; 0245 on 6080, 11890, 0400 on 13690; 0425, 0400, 0445 on 11785, 15125; 0845 on 15240. Many of the Asian broadcasts can also be heard off-the-back: 0615 on 11970, 15240; 1230 and 1345 on 11970, 15440, 17880, 21465; 1545 on 11970, 17880, 1000 on 11890, 15240, 17880, 21465. And the African service beamed to the Caribbean at 0330 on 13610 (via John Carson, William Westenhaver, Tom Kuca, Tony Fusco)

GUATEMALA La Voz de Nahuala added a second transmitter, on 5040, but heard much better on old 3360 at 1140 in presumed Quiche (Don Moore, MI, RCI SWL Digest)

HUNGARY Radio Budapest's Hungarian History has always been one of my favorites. It comes in very well on 9835 at 0200 UTC Wednesdays and Saturdays, and sometimes on Tuesdays at 1900 on 11910. The editors always come up with an imaginative way of conveying information, either with quotes from famous people, poetry, or some stirring music. Once they pretended to be the BBC to let us hear how the 1848 Revolution would have been covered by the foreign press. A recent program about the 1956 Revolution again presented the facts as if they were an independent broadcasting station at that time (Grant Lochmiller, IA, Review of International Broadcasting)

ISRAEL Israel Radio's schedule shows a new service in Tamarite (Southern Arabian Judeo-Arabic) at 1340-1355 UTC on 21790, 17575 (BBCCM)

ITALY Radio Europe, nominal 7295 or alternate 7290, has been on 7287 to avoid interference, scheduled daily 0900-1300, including lots of tapes of American stations, both music/commercial, and WYFR in Italian. It may also appear on 27827 kHz (Dario Monferini, Play-DX) Italian Radio Relay Service moved back to 9865 from 9860, Sundays at 0800-1230 but extended past 1245 on the second Sunday of the month for a DX program in Italian and English by Monferini. After 9865 closes, 13790 has been tested (RVMN and Sweden Calling DXers)

JAPAN NSB, Tokyo, 9595, heard on a Thursday at 1600 with a joint program from the Money Radio Network in the U.S. (Ernie Behr, Ont. World of Radio)

KOREA NORTH The 11680 domestic service transmitter carries Pyongyang programming at 1958 to 1800 except at 0500-0600 when there are local programs from Kangye (BBCCM)

KOREA SOUTH Transmitter sites of clandestine stations to the North have been located by members of the Asian Broadcasting Institute. Voice of the People is on the northwest side of Seoul near the airport; directional antennas were seen, and 6600 kHz could be heard on a portable radio with antenna disconnected; 3.5 km to the south is Radio Echo of Hope; a sign in front of both, with armed guards, says 'International Telecommunication Laboratory' (Radio Japan DX Comer, and RNMN)

KURDISTAN /non/ Voice of the People of Kurdistam was heard on 15050 at 1600-1730, also on 4080-variable to 4340 and 7100 (BBCCM)

LEBANON A new station has been heard on 5977.5, Lebanese Radio in Arabic at 1520, saying it would continue until 2200. It supports General Michel Awn (BBCCM)

LIBERIA A few low-power transmissions still show on the VOA schedule: 15 kHz at 9605 at 1830-1900, and on 21485 at 1800-2200 (RCI SWL Digest)

LIBYA The seldom-heard English service from Radio Jamahiriya still sends out updated schedules showing 15450 at 1800-1900 to Africa and Western Europe; 7245 at 2230-2400 to North America and Western Europe. Program titles range from the innocuous Happy Music and Saturday Night Country, to Monopoly and Exploitation, The Scourge of Imperialism, (via Alan Roe, UK) /non/ Voice of the Libyan People, 9500, in Arabic at 2100-2144, and from 0530 or 0600 on 11825; they refused to verify 15700, heard at 0500 in September. Also on 9500 is Voice of the People (Saut ash-Shaab) at 1800-1957 and 2200-2357 (Ernie Behr, Ont, World of Radio)

LITHUANIA Radio Vilnius announced new frequencies for English at 2259-2328: 7480, 9700, 15455, 15580 (15180?) (John Carson, OK, W.O.R.) The Lithuanian DX Club puts out a bulletin in English, Banga. Single copies cost $1 or 3 IRCs, from Box 985, Vilnius 232300, Lithuania. The June 1989

MONITORING TIMES January 1990 25
issue featured a report on the end of jamming from Lithuanian states (via Christos Rigas, IL W.O.R.)

**MONGOLIA** Radio Ulaanbaatar's winter schedule shows expansion of Japanese at the expense of English; at 1200-1230 on 12025 and 9615, English occurs daily except Tuesday and Friday; days of week are ambiguous for others: 0910-0940 on 12015, 9615; 1445-1515 on 15035, 9645, 9575; 1940-2010 on 12050, 4080 (via Nick Terrence, NY)

**MYANMAR** /non/ Voice of the DAB (Democratic Alliance of Burma) has set up a station near the Thai-Burmese border on 7135 at 0130-0330, including some English (BBCM) It's the old Kawkholoei transmitter, 1 or 2 kW, blocked by BBC, at 0100-0300 (Victor Goontilleke, Sri Lanka, RN/MN)

**NETHERLANDS** Though not intended for us, the Thursday 1451 broadcast of Media Network comes in well on 13770, 15150, 17575, 17605 (gh, Tucson) Media Network on Jan. invites listener participation on the future of radio until 2000-16 lines of text or a sesquiminite of voice phoned in to 31-35-724-222 (RN/MN)

**NICARAGUA** La Voz de Nicaragua seemed to be trying to conceal its identity by calling itself only "La Voz", varying around new 5999 kHz from 0100 as late as 0600, 0627, or 0700 sign-off, and also from 1200; formerly on 6098.7. But it's under Moscow-via-Cuba until 0900 (Ernie Behr, Ont., SWL Digest) Also heard from 2200 until the Cuban comes on at 2345 (Tim Hendel, FL) And once slipped giving a full ID as La Voz de Nicaragua (Hendel, DX Newsline via RN/MN)

**NIGERIA** Voice of Nigeria external service is active on 7255 only, at 0455-2200; English at 0455, 0800, 1400; French at 0600, 1200, 1800; Hausa at 0700, 1100, 1700 (BBCM)

**PAPUA NEW GUINEA** Radio Enga confirmed back on the air. 2410 kHz heard with an ID at 1216 during sing-sing program; at this time there was no audio from all the other PNG stations which are on 90 meters (Kevin Atkins, AL, RCI SWL Digest)

**PERU** Radio Ero, Iquitos, some days uses 5012.1, others 5097.2, heard between 1010 and 1050 (Kirk Allen, OK, RCI SWL Digest) Radio Huancabamba reactivated on 6280.9 at 0307-0350, announcing 6290 (Dave Valko, PA, Fine Tuning)

**SUDAN** English from Radio Omdurman, the Sudan Broadcasting Service, heard some days at 1530-1555 on 9550 instead of 9540; never heard here on 11625 -- see SYRIA (Ernie Behr, Ont.) Except for English at 1530, 11625 carries General Program in Arabic at 0355-0600 and 1005-1900 approximately. The station says 9435 is 10kW at Soba, used 1100-1400. See also ETHIOPIA /non/ (BBCM)

**SWEDEN** Radio

Swedish programs: weekdays, **Weekday--Nordic region news; then: Monday, sports and music; Tuesday, Sweden**

**Calling DXers;** Wednesday, **Business Life**, but 1st and 3rd Wednesday, **Dialogue--Nordic nations and Third World; Thursday, Horizon** on the last week of the month; Friday, Nordic pop music; Saturday, **Newsweek; Sunday--1st, Mailbag and Stamp Corner; 2nd, Spectrum--culture and arts; 3rd, Mailbag; 4th, interviews about life today; 5th, a subject in greater detail** (Gordon Darling, WDXC Contact)

**TURKEY** I had been monitoring Voice of Turkey for some years, and originally recommended 9445 to them for North America (though it now needs improvement on the west coast) This fall VOT generously invited my wife Dottie and me to join their context-winners on a tour of Turkey. The station's facilities are very crowded now; they look forward to moving into a new complex in 1990. We took the opportunity to make some constructive comments on the long-haul future of VOT, to the Chief Engineer, Program Manager, and Director (George J. Poppin, CA, Review of International Broadcasting)

**USSR** Radio Station Peace & Progress, Moscow, English schedule until March 3: 1300-1400 to Southeast Asia on 7195, 7330, 7380, 9675, 11775, 15520, 15535, 17635, 17840: 1630-1700 to Southwest Asia on 6005, 7325, 9715, 15320, 1630-1700 to Africa on 9490, 9820, 11745, 11850, 2200-2300 to Europe on 4795, 6145, 7205, 7360, 9580 (Robert Chester, Radio Australia DX Time)

**Radio Tashkent**

Radio Tashkent, Uzbekistan, heard in English at 1200-1230 on all five announced frequencies: 15470, 11785, 9600, 9540, 5945; but none heard for the different program at 1330-1400 (William Westenhaven, PQ, World of Radio) The autumn-winter printed schedule showed 15470, 11785, 9715, 9600 and 73XX; programs include: Life in the Village, Wednesday 1200; DX Program, 2nd Saturday at 1330, repeated next Sunday at 1200; Salom Aleikum Listeners' Club, last Sunday at 1200, repeated next Saturday at 1330; Literary Programmes, 2nd Sunday at 1200, repeated 3rd Saturday at 1330 (via Alan Roe, UK) Khabarovsk has added new 5965 and 6005 to old 4610; carries Mayak program except at 0700-1300 when there are local programs (Y. Kato and S. Aoki, Japan, Radio Japan DX Corner)

**UKOGBANI** It's a well-kept secret that American networks and many stations have an unlisted call-up phone number carrying the programming for advertisers to monitor, or even affiliates to broadcast. Now BBC World Service has gone public with this setup in Sydney, Australia, satellite-fed 24 hours and open to anyone who wants to pay the phone bill of 23 cents per minute off-Peak; and 54 cents at peak hours, within Australia. Presumably anyone in the world that must hear the BBC at any cost may also call 0055-1434 (via Radio Australia Communicator)

BBC now uses out-of-band 5875 for Spanish at 0000-0200 and 0300-0430, replacing 11680 (William Westenhaven, PQ) Also at 0600 for Polish (Ernie Behr, Ont.)

**USA** Bush administration control of the VOA was all too obvious as the President held an impromptu news conference just before departing the non-summit in Costa Rica. On a Saturday morning at 1530 UTC, ABC, CBS, and NBC TV stuck with their lucrative kidvid, but VOA added many special frequencies from U.S. sites: 21725, 21670, 21500, 19775, 17710, 15250; and extended Spanish frequencies another hour: 11945, 13775, 15265, 17730, 21580, 21610. The next news conference a few days later on a weekday at the same hour was covered on TV, so none of the special shortwave frequencies were activated.

TWR Bonaire calls its diesel engines "ma" and "pa"; not to be outdone, WHRI in Indiana names its two transmitters Angel 1 (to South America) and Angel 2 (to Europe) (World Harvest, via John Carlson, OK)

**VENUEZUELA** The English segment from Radio Nacional has been confirmed, UTC Sunday at 0004-0015 on 9540.5, not heard on other announced frequencies, 5020, 11695, 11850 (Brian Alexander, PA, Fine Tuning) And 9540.5 has heavy interference from Prague on 9540.

**YUGOSLAVIA** English from Radio Yugoslavia: 1300-1330 on 15325, 15165, 11735; 1930-2000 on 17735 (typo for 17735?); 7215, 5980; 2200-2245 on 17735, 9660, 9620, 7215; 0100-0145 on 17735, 6005, 5980 (BBCM) Usually only one of each set is beamed toward, and audible in, North America.

Keep up-to-date with much more news about shortwave and other media in REVIEW OF INTERNATIONAL BROADCASTING and/or DX LISTENING DIGEST. Samples are $2 each in North America, 7 IRCs or US$3 each overseas airmail, US funds on a US bank; 10-issue subscriptions in North America cost US$21, or both for US$40, from Glenn Hauser, Box 44164-MT, Tucson, AZ 85733. Also monitor Glenn Hauser's broadcasts from Austria, Canada, Costa Rica, WRNO, as detailed in recent columns.

**Spectrum**

January 1990 MONITORING TIMES
Broadcast Loggings

Let other readers know what you’re enjoying. Send your loggings to Gayle Van Horn, P.O. Box 98, Brassston, NC 28902. English broadcast unless otherwise noted.

0010 UTC on 4985
BRAZIL Radio Brasil central. Portuguese. Brazilian pops with breaks for chat. "Brasil Central" ID at 0017 UTC. (Frank Mierzwinski, Mt. Penn, PA)

0045 UTC on 3325
GERMANY, FEDERAL REPUBLIC Deutsche Welle. German. Announcer duo with conversations to time tones at 0115 UTC. German folk music and station ID at 0128 UTC. (Frank Mierzwinski, Mt. Penn, PA)

0125 UTC on 17660
PAKISTAN Radio Pakistan. Urdu. Talk until 0130 UTC; and native music. ID to include mentions of Karachi. (Frank Mierzwinski, Mt. Penn, PA) Sign-off in progress on 11570 kHz at 2015 UTC. (Sam Wright, Baxley, MS)

0140 UTC on 4955
BRAZIL Radio Marajoara. Portuguese. Brazilian pop vocals, sambas, and ballads. Local commercials, time checks, and IDs. (Michael Loran, Murrieta, CA)

0154 UTC on 9875
AUSTRIA Radio Austria Int’l. Discussion on the Freud Museum and Austrian music program. (Michael Loran, Murrieta, CA)

0158 UTC on 11745
BRAZIL Radio Bras. Feature on evacuation plans for times of disaster, and discussion on ecology. (Robert Landau, Secaucus, NJ)

0205 UTC on 3250
HONDURAS Radio La Voz de Luz y Vida. Spanish. Music mixed with IDs, chat, and station program schedule. (Frank Mierzwinski, Mt. Penn, PA) Monitored past 0310 UTC. (Michael Loran, Murrieta, CA)

0207 UTC on 17735
SWITZERLAND Swiss Radio Int’. World newscast, followed by talk on Red Cross relief projects in Sudan and UN discussions on apartheid. "Dateline" show features a hybrid diesel auto tested in Germany. (Robert Hurley, Baltimore, MD) Heard on 9835/12035 kHz at 0408 UTC. (Michael Loran, Murrieta, CA)

0224 UTC on 11940
ROMANIA Radio Bucharest. Feature on the construction of medical research hospitals in Romania. (Robert Hurley, Baltimore, MD)

0237 UTC on 6455
CLANDESTINE Radio Farabundo Marti. Spanish. Lady with political commentary to musical tunes. Interference present throughout broadcast. (Harold Froedge, Midland, MI)

0303 UTC on 6470
CLANDESTINE Radio Venceremos. Spanish. Commentary on Cuba to Latin music show. Additional commentary and upbeat Spanish tune at 0315 UTC. Sign-off at 0317 UTC. (Harold Froedge, Midland, MI)

0319 UTC on 3215
SOUTH AFRICA SABC. Station IDs and Elvis music program. Excellent signal. (Michael Loran, Murrieta, CA)

0335 UTC on 4820
HONDURAS La Voz de Evangelia. Spanish. Religious music and clear station ID at 0340 UTC. (Frank Mierzwinski, Mt. Penn, PA) (Michael Loran, Murrieta, CA)

0345 UTC on 4875
BRAZIL Radio Nacional-Boa Vista. Portuguese. Newscast and "Boa Vista" ID. Musical interlude followed by station sign-off at 0358 UTC. (Frank Mierzwinski, Mt. Penn, PA)

0350 UTC on 15470
NEW ZEALAND Radio New Zealand. Rugby commentary of Canterbury vs Auckland. Noted on parallel frequency 17705 kHz. (Harold Froedge, Midland, MI) Monitored on 17705/15453 at 0519 UTC. (Michael Loran, Murrieta, CA)

0358 UTC on 9735
PARAGUAY Radio Nacional de Paraguay. Spanish. "Musica de Paraguay" program to 0400 UTC. Closing announcements and sign-off at 0401 UTC. (Harold Froedge, Midland, MI)

0454 UTC on 4800

0533 UTC on 5020

0650 UTC on 3325
BRAZIL Radio Liberal. Spanish. Male announcer presents music program and "Radio Liberal" ID at 0903 UTC. (Frank Mierzwinski, Mt. Penn, PA)

0905 UTC on 4940
VENEZUELA Radio Continental. Spanish. Male/female announcer duo with Latin music and conversation. Station ID at 0940 UTC. (Frank Mierzwinski, Mt. Penn, PA)

0906 UTC on 11760

0920 UTC on 4790
PERU Radio Atlantida. Spanish. Peruvian music tunes with breaks for IDs at 0930, 0934, and 0935 UTC, with rooster crows. (Frank Mierzwinski, Mt. Penn, PA)

0931 UTC on 5975

0934 UTC on 8239.7
CHILE Radio Santa Maria. Spanish. Fair to poor signal quality for evening programming. Monitored from 0934-1050 UTC, when lost to strong co-channel carrier. (John Tuchschener, Neenah, WI)

0945 UTC on 5050

0955 UTC on 4810.2
PERU Radio San Martin. Spanish. Station sign-on with national anthem. Station ID and promonotional. Beautiful Peruvian vocals and flute instruments. (Sam Wright, Baxley, MS)

1055 UTC on 21505
SAUDI ARABIA B.S.K.S.A. Arabic signing to clear ID at 1100 UTC. Arabic doo wop to 1117 UTC, with fair signal quality. (Robert Landau, Secaucus, NJ)

1105 UTC on 3395
PAPUA NEW GUINEA Papua Territory. Island music and request programming. (Robert Landau, Secaucus, NJ)

1130 UTC on 17575
MADAGASCAR Radio Ndreri. News relay. Fair signal with co-channel interference. (Jean-Michel Delage, Paris, France)

1215 UTC on 2290
MEXICO Radio Huayacocotla. Good news and music program for campesino music to fading at 1235 UTC. (Michael Loran, Murrieta, CA)

1255 UTC on 9055
THAILAND Radio Thailand. News items about Bangkok and music from Simon and Garfunkle. (Michael Loran, Murrieta, CA) Monitored sign-on with gongs, national anthem, ID/frequency schedule and music program. (Sam Wright, Baxley, MS)

1400 UTC on 4950
MALAYSIA Voice of Malaysia. English. Station ID as "Radio 4" with economic news and rubber price quotes. (Michael Loran, Murrieta, CA)

1420 UTC on 9580
AUSTRALIA Radio Australia. News and music to station ID at 1427 UTC. Programming announced as Asian service, followed by frequency/time schedule and newscast. (Frank Mierzwinski, Mt. Penn, PA)

2100 UTC on 17735
OMAN Radio Oman. Arabic. Station announcements to include an ID. Arabic prayers to 2115 UTC followed by sign-off routine and national anthem to 2128 UTC. (Frank Mierzwinski, Mt. Penn, PA)

2145 UTC on 13660
IRAQ Radio Baghdad. Classical Arabic music and station ID introduces news bulletins at 2158 UTC. (Bob Fraser, Cohasset, MA)

2207 UTC on 9625
CANADA Radio Canada Int’l. News on Canadian air crashes and violence in Johannesburg, South Africa. (Robert Hurley, Baltimore, MD) Monitored at 0008 UTC on 9755 kHz. (Michael Loran, Murrieta, CA)

2215 UTC on 9730
GERMAN DEMOCRATIC REPUBLIC Radio Berlin Int’l. "DX Club" show discusses the winter DX season for northern/southern hemispheres. (Robert Hurley, Baltimore, MD)

2220 UTC on 5035
CENTRAL AFRICAN REPUBLIC RTV Centrafricaine. French. Native African music with announcement breaks. Fair signal to severe interference at 2241 UTC. (Robert Landau, Secaucus, NJ)

2222 UTC on 4785
MALI RTV Malienne. French. Closing African tune to station sign-off. ID and national anthem to 0000 UTC. Poor signal quality due to interference. (Robert Landau, Secaucus, NJ)

2230 UTC on 7270

2242 UTC on 4915
GHANA Radio Ghana International. African vocals to English ID and newscast at 2245 UTC. Religious programming and music. (Harold Froedge, Midland, MI)

2300 UTC on 15330
FRANCE Radio France Int’l. French. DJ with tape of "Power Play" rock music program from WSAS FM station. Monitored to 0000 UTC. Audible also at 2340 UTC. (Robert Hurley, Baltimore, MD)

2320 UTC on 11660
BULGARIA Radio Sofia. "Scanning the Pages" program discussing Bulgarian poetry. Audible on parallel 15350 kHz. (Bob Fraser, Cohasset, MA)

2350 UTC on 9705
PORTUGAL Radio Portugal. Program on Portuguese folk music, including "Song For One Who Dreams" and "Ballad For No One." (Robert Hurley, Baltimore, MD)

MONITORING TIMES

January 1990 27
Tracking the Soviet Space Program

One of the more interesting activities to monitor in the shortwave utility bands is the Soviet SESS tracking ships. By monitoring the various SESS net frequencies, the average monitor can determine what is happening within the Soviet manned space program. This month our intrepid SESS reporters Sam Ricks and Tom Roach check in with a Utility World intelligence report on the Soviets.

The Soviets keep six of their spacecraft tracking ships at sea during the early summer of last year, monitoring the mothballed MIR (Russian for Peace) space station. Eventually, three tracking ships returned to their home ports, one was sent to the Pacific, and two were left in the Atlantic.

In July, however, SESS ship's Gagarin and Belyayev were joined by the Academik S. Korolev and Kosmonaut G. Dobrovolski. This was about a week before the military mission of the US shuttle Columbia. At that time the Kosmonaut V. Volkov entered the Atlantic heading south.

With the launch of an unmanned Progress-M resupply spacecraft to the MIR space station, the SESS shortwave frequencies became more active. Even though there was a lull in manned activity aboard the Soviet MIR, SESS shortwave nets were active each day in the international marine band frequencies.

All this information came as a result of monitoring the Soviet SESS shortwave frequencies in the international marine bands. The key to tracking Soviet manned space activity is regular monitoring of these active frequencies. Also, using such publications as Aviation Week and Space Technology helps to keep track of things. This weekly magazine is usually available at local libraries.

A typical message commonly seen on SESS frequencies appears below. This type of message is a "look-up angle" message. I have abbreviated the message header of this message. In addition to the information presented on line one of the message, the message header would also reflect which ship the traffic is destined for.

A-507 09019 W0001 010001 070000 11410 18801 0000
011430 18623 0014
011500 12300 0330
011530 17805 0615
011536 17831 0659
011600 17031 0948
011630 15753 1425
011700 13607 1930
011730 10506 2101
011800 07752 1655
011830 06114 1146
011900 05832 0740
011906 05014 0659

Sam Ricks believes column 1 indicates the orbit-time (Moscow time) the spacecraft passes over the particular ship the message is sent to, i.e.: 011410 = orbit 1, time 1410 hours (1110 hours UTC). Column 2 is the azimuth in degrees/minutes from the ship to the spacecraft. Column 3 is the elevation in degrees/minutes from the ship to the spacecraft.

Ricks points out that you can tell when the Soviets are tracking a satellite in deep space type orbits -- their tracking tables become very precise. When they are tracking objects further out in space, such as interplanetary probes, the data elements are in degrees, minutes, seconds. Tracking tables for MIR, which is in near earth orbit, are in increments of 1 minute, with azimuth and elevation in tenths of a degree, a lot less precise.

I must point out that the tracking table listed above for satellite A-507 is not for the MIR, but for a satellite SAM believed was Cosmos 1989, a high altitude navigation satellite.

You can monitor the Soviet SESS fleet. Look for their CW and RTTY data in the marine shortwave bands. Table One gives some general ranges to look for this very interesting set of ships.

As always I appreciate Sam Ricks' efforts to keep MT readers up-to-date on the latest happenings of the Soviet SESS ships and their traffic. For readers who would like more information on monitoring the Soviet space program and the Soviet SESS fleet, I invite you to check out the latest edition of Communications Satellites. It is available from Grove Enterprises.

Beginners' USN Ship Designations List

Fraser Bonnett says "I'm now hooked on "Utes" and he has bought his second receiver to prove it. In his initial letter to this column, he sent a list of US Navy ship designations and

<table>
<thead>
<tr>
<th>Table I</th>
<th>Soviet SESS Ship Search Ranges</th>
</tr>
</thead>
<tbody>
<tr>
<td>8295.0</td>
<td>8425.0 MHZ</td>
</tr>
<tr>
<td>12495.0</td>
<td>12530.0 MHZ</td>
</tr>
<tr>
<td>16665.0</td>
<td>16707.0 MHZ</td>
</tr>
</tbody>
</table>

Specific frequencies used in the past include:
8297.5, 8298.5, 8299.0, 8417.0, 8418.0, 12511.0, 12522.5, 12523.0, 12524.0, 12526.0, 12526.5 AND 16703.0

Look for 170.50 RTTY traffic

<table>
<thead>
<tr>
<th>Table II</th>
<th>USN Ship Designations</th>
</tr>
</thead>
<tbody>
<tr>
<td>AD</td>
<td>Destroyer Tender</td>
</tr>
<tr>
<td>AFS</td>
<td>Combat Store Ship</td>
</tr>
<tr>
<td>AO</td>
<td>Oilers</td>
</tr>
<tr>
<td>AOR</td>
<td>Replenishment Oilier</td>
</tr>
<tr>
<td>ARS</td>
<td>Salvage Ships</td>
</tr>
<tr>
<td>ASR</td>
<td>Submarine Rescue Ship</td>
</tr>
<tr>
<td>AVM</td>
<td>Guided Missile Test Ship</td>
</tr>
<tr>
<td>CG</td>
<td>Guided Missile Cruiser</td>
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<tr>
<td>CV</td>
<td>Aircraft Carrier</td>
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<tr>
<td>CVN</td>
<td>Aircraft Carrier Nuclear</td>
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<tr>
<td>DDG</td>
<td>Guided Missile Destroyer</td>
</tr>
<tr>
<td>FFG</td>
<td>Guided Missile Frigates</td>
</tr>
<tr>
<td>LCC</td>
<td>Amphibious Command Ship</td>
</tr>
<tr>
<td>LHA</td>
<td>Amphibious Assault Ship</td>
</tr>
<tr>
<td>LPD</td>
<td>Amphibious Transport Dock Ship</td>
</tr>
<tr>
<td>LSD</td>
<td>Dock Landing Ship</td>
</tr>
<tr>
<td>MCHD</td>
<td>Medium Class Hopper Dredge</td>
</tr>
<tr>
<td>WXXX</td>
<td>Coast Guard Cutter</td>
</tr>
</tbody>
</table>

AE Ammunition Ship
AGF Command Ships
AOE Fast Combat Support Ship
AR/ARL Repair Ship
AS Submarine Tender
ATS Salvage Tug
BB Battleship
CGN Guided Missile Cruiser Nuclear
DD Destroyers
FF Fast Frigate
IX Helicopter Landing Trainer
LKA Amphibious Cargo Ship
LPH Amphibious Assault Ship
LST Tank Landing Ship
TXX Military Sealift Command
asked what they meant. Lo and behold 20 days later, Fraser answers his own question and provides our readers with Table Two.

If you are not familiar with Navy ship designations you might want to make a copy of the above list and keep it by your receiver or next to your MT. It will aid you in ID'ing the type of ship your listening to or reading about in MT's Ute World loggings section.

**International Ice Patrol to start work**

Starting either either March or in April depending upon conditions, the International Ice Patrol will commence its annual service of guarding the waterways in the Atlantic. They basically patrol the southeastern, southern, and southwestern limits of the regions of icebergs in the vicinity of the Grand Banks of Newfoundland.

Reports of ice in this area will originate from passing ships and aircraft and from flights flown by the International Ice Patrol (IIP) aircraft. IIP will broadcast two message bulletins each day and a daily radio-facsimile chart, containing ice information to inform ships of the extent of the estimated limits of all known ice. Broadcasts from IIP will occur as indicated in Table Three.

Many thanks to Mr. Charles Brown aboard the S/S Guadalupe, amateur callsign N4SO, for the above list. Next month I will publish a list of FAX stations sending IIP information.

**Was Doakes Real?**

Our intrepid reporter in Okinawa, Mike Hardester recently dropped a note to say hi and let me know he's back in Okinawa (with no radio yet) and ask me this:

"Was the 4577.0 credit to Joe Doakes, J Klingensuff Drive, Mars, PA for real? I know that Mars, PA is real...it's just the contributor's name and the J Klingensuff Drive is a bit hard to swallow."

Well, Mike, believe it or not, this isn't made up by me. While the post mark wasn't from Mars, the rest of the information is as you see it above. And to add insult to injury Joe Doakes didn't bother to let me know who he really is. I am sure it is all made up by that individual and he wishes to keep his identity a secret even from me.

**Table III**

<table>
<thead>
<tr>
<th>Broadcast Station</th>
<th>Time of Broadcast</th>
<th>Frequencies</th>
</tr>
</thead>
<tbody>
<tr>
<td>CG COMSTA Boston-NIK</td>
<td>0500, 1100, 1700</td>
<td>518 kHz NAVTEX ICE BRDCST</td>
</tr>
<tr>
<td></td>
<td>2300</td>
<td>5320, 8502, 12750</td>
</tr>
<tr>
<td></td>
<td>1218</td>
<td>8502, 12750 All FEC Mode</td>
</tr>
<tr>
<td>Modes listed below are all CW</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CG COMSTA Boston-NIK</td>
<td>0050</td>
<td>5320, 8502, 12750</td>
</tr>
<tr>
<td></td>
<td>1250</td>
<td>8502, 12750</td>
</tr>
<tr>
<td>Canadian CG St. John, Newfoundland-VON</td>
<td>0000, 1330</td>
<td>478</td>
</tr>
<tr>
<td>Canadian Forces Mill</td>
<td>0130,0330</td>
<td>438</td>
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<tr>
<td>Cove-CFH</td>
<td>0455, 2200-1000</td>
<td>6430 Continuous</td>
</tr>
<tr>
<td></td>
<td>16925, 22997.5 On req</td>
<td>8867 Continuous</td>
</tr>
<tr>
<td>LCMP Broadcast</td>
<td>0800-0900</td>
<td>8090 Continuous</td>
</tr>
<tr>
<td></td>
<td>12135 Continuous</td>
<td>12726 (1000-2200)</td>
</tr>
<tr>
<td></td>
<td>16925.5 22997.5 On req</td>
<td>20025 (1200-2359)</td>
</tr>
<tr>
<td>Norfolk, VA-NMN/NAM</td>
<td>1500-1600</td>
<td>16180 Continuous</td>
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<tr>
<td>RAF/NRK/AOK/GXH/NGR</td>
<td>1600-1700</td>
<td>20255 (1200-2359)</td>
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<tr>
<td></td>
<td>2100-2200</td>
<td>7504.5 Continuous</td>
</tr>
<tr>
<td></td>
<td>12961 (0800-1900)</td>
<td>12691</td>
</tr>
<tr>
<td></td>
<td>(1900-0800)</td>
<td>4001</td>
</tr>
<tr>
<td>Thuro, Greenland-GXH</td>
<td>same times as above</td>
<td>5167 (1900-0800)</td>
</tr>
<tr>
<td>Keflavik, Iceland-NRK</td>
<td>same times as above</td>
<td>5670 Continuous</td>
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<tr>
<td>Key West, FL-NAR</td>
<td>same times as above</td>
<td>5891.5, 7705 Continuous</td>
</tr>
<tr>
<td>Rota, Spain-AOK</td>
<td>same times as above</td>
<td>6203, 13372.5 Continuous</td>
</tr>
</tbody>
</table>

Speaking of such subjects, and since I have had a lot of requests for this, now comes the Utility World logging guidelines. Some of the major things to include in your log include:

- **Frequency**: kHz/MHz makes no difference to me, if you can put your logs in frequency order fine but please -- please -- no cut up strips. I live in the computer age and do not need or want strips. Handwritten loggings are fine so long as I can read them.
- **Callsign/s noted on air**: This is especially important if you are sending me an unknown and asking me or the readers to identify your log. Callsigns and some of the material you intercepted are about the only way we all can help ID an unknown.
- **Time**: Report all time in this column in UTC. Monitoring Times has readers all over the world and we must use a time zone that can be understood by everyone.
- **Location**: If known. This must include city, state/country (unless U.S.).
- **Mode**: Please indicate mode of operation. If FAX/RTTY I need you to specify IOC-Drum rotation speed/Shift in Hertz-Baud rate, if known.
- **Details**: This can vary from a simple ‘CW CQ marker’ to a detailed transcript of the transmission monitored. I leave this up to the judgment of the reporter. As I mentioned in callsigns, for an unknown details are paramount.

I hope this clarifies my logging usage policy. I would like to thank each and every one of you who support this column as it moves into its third year in these pages. I have really enjoyed serving you, Bob and Judy Grove and Larry Miller on the staff of the finest communications magazine around, Monitoring Times.

Now until next month, it's time to check into what you are hearing in the Utility World...
Utility World

Utility Loggings

Abbreviations used in this column

All times UTC; frequencies in kilohertz. All voice transmissions are English unless otherwise noted.

<table>
<thead>
<tr>
<th>AM</th>
<th>Amplitude modulation</th>
<th>ISB</th>
<th>Independent sideband</th>
</tr>
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<tbody>
<tr>
<td>ARQ</td>
<td>SITOR</td>
<td>LSB</td>
<td>Lower sideband</td>
</tr>
<tr>
<td>CW</td>
<td>Morse code</td>
<td>RTTY</td>
<td>Radioteleprint</td>
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<tr>
<td>FAX</td>
<td>Facsimile</td>
<td>LSB</td>
<td>Unidentified</td>
</tr>
<tr>
<td>FEC</td>
<td>Forward error correction</td>
<td>LSB</td>
<td>Upper sideband</td>
</tr>
<tr>
<td>ID</td>
<td>Identification</td>
<td>LSB</td>
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</tbody>
</table>

4225.9 XFM-Manzanillo Radio, Mexico, with CW marker. (Ed Jeff, Lexington, KY) Time, Ed7-ed.
4231.7 FUF-French Naval Radio Fort de France, Martinique, with V CW marker. (Jeff, KY)
4275.0 TBSA-Imri Naval Radio, Turkey, heard in CW at 0015 with a CW marker. (Jeff, KY)
4515.0 Civil Air Patrol frequency heard in USB with check-ins at 1100 each morning. Conversation centered around the installation of repeater at Hemingway Air Base. (Robert Montgomery, Levittown, PA)
4710.0 Tango Whiskey-RAF Neatshiegh, England, working 6DF at 0137 in USB. (Doyie, CT)
5535.0 Saudi 055/SAUD 037 working London at 0219 in USB. Gave ETAs and SELCALs. (Tyke, UK) Welcome to the column, Tyke. Hope you report often-ed.
5598.0 Shanwick Aeradio working German Air Force 007 in USB at 0228. Told to contact Reykjavik on 133.0. (Tyke, UK)
5729.0 RAF-Architect with weather observations for the UK at 0100 in USB. (Doyie, CT)
5677.0 Moderate QRM on channel, Spanish female 5/5 numbers station. NY ARINC chatting with San Juan and indicated that the source of the QRM had been traced to Nicaragua and a protest had been lodged. (Robert Confino, Douglasville, PA)
5761.0 Female reciting continuous string of Spanish numbers; definitely sounded like someone “live” (shouting into mike) with very poor audio quality at 0245 in AM. (Confino, PA)
6690.0 RAF-Eaton?? working Zombie 7055, 7056 at 0117 in USB with frapping info. Mentioned MILQ, this station active over two hours with this exercise. (Doyie, CT)
6720.0 BH calling Skyking at 0051 with coded traffic on Victor. (Doyie, CT) SAC Victor/Co.
6761.0 Tailboy calling Siegbord for radio check at 0146 in USB. Called this frequency Sierra 391. (Doyie, CT)
6840.0 Numbers station in English, female repeating three digit number three times for several minutes, heard ten times then a 3/2 digit number series began at 2006. (Confino, PA)
6870.0 FAA stations: KCMO5 (Hampton, GA), KVA93 (Birmingham, AL), and KORB2 (Orlando, FL) checking into net and exchanging signal reports. (Frantz, GA)
6955.0 Female English number station with 3/2 digits heard at 0607. (Frodie, MI)
7481.0 Spanish female number station heard at 2300 in AM. (Frodie, MI)
8336.8 NOJ-US Coast Guard RADSTA Kodiak, Alaska, sending Alaskan waters forecast at 0750 in 75 baud RTTY. (Brian Johnson, San Diego, CA)
8388.0 3CM-MV Mar Courier with VCS with message to agent at 2255 in CW. (Steve McDonald, Fort Coquitlam, British Columbia, Canada)
8465.0 Numbers and letters station heard in English at 0234, most in groups but long list. (Confino, PA)
8480.0 Alaycat working Drysack in USB at 1108. (Dix, NY)
8571.0 UFN-Novorossiysk Radio, USSR, with DE CW marker at 0218. (Dix, NY)
8595.0 DZK-Manilla (Bulacan) Radio, Philippines, heard at 0955 with a CW marker. (Dix, NY)
8606.0 ZRD-Cape (Simonstown) Radio, South Africa, sending a CW V marker at 0026. (Dix, NY)
8650.0 NMO-US Coast Guard COMSTA Honolulu, Hawaii, sending a CW marker at 0918. (Dix, NY)
8690.0 TFA-Reykjavik Radio, Iceland, with a CW marker at 2154. (Dix, NY)
8718.9 NNN-US Coast Guard COMSTA Portsmouth, Virginia, working CGC Escambia at 2231 in USB with a phone patch to Norfolk Rescue. Aircraft on the scene of a capsized vessel. (Doyie, CT)
8778.0 Female Spanish numbers station with five digit numbers at 1200. (Montgomery, PA)
9017.0 Honeydew working Gray Mare and Polo Game at 0021 in USB with radio checks. Referred to the frequency as X-904. (Doyie, CT)
9024.0 Heard around 1700 scrambled voice then “Ladybird, this is Dehorn on Hotel Fox . . . in clear, request backup voice.” Then heard “Yeger, Yeger, this is Sidecar, would you go green (scramble-ed.) at this time.” In USB mode. (Gerald Trimble, S. Rockwood, MI) Welcome to the column, Jerry. Please report often-ed.
10025.0 UNID station transmitting a male computerized voice in USB at 2129. “Climbing to 29” and the number went up one each minute till 2200, then “climbing to 00” again to 60 and fadeout. (Doyie, CT)
10046.0 4XZ-Hafna Naval Radio, Israel, sending a CW V marker. (Jeff, KY) Also heard at 0234. (Kimpton, Ontario, Canada)
10555.0 AX134-Darwin, Australia, with FAX weather chart from 2240-2300. (Mr. Deutsche Welle) See loggings any later? (Jeff, KY)
10573.0 Several tactical stations sending traffic in CW including: 9AC/50X/V9N/4/AYA from 2200-2220. (Mr. Deutsche Welle-At Sea)
11205.0 FAX calling SQG, CoC, and U6D at 0145 in USB. NASA frequency. (Frantz, GA)
11212.0 MLK-Raf Scotland heard at 0202 with a CW ID, then time pips. (Doyie, CT)
11214.0 Chevy 1, 2, 3, 4, 5, 6, 7 working undist unit. Units checking in and exchanging signals reports, then all quiet at 1730 in USB. (Frantz, GA)
11214.0 Century 40 working Trenton Military with a phone patch to McGuire AFB, New Jersey. Boeing 707 (tail number 0559) arriving McGuire UTAS. A frequency in USB. (Mr. Deutsche Welle)
11222.0 Stockholm Aeradio working Iberia 9901 at 2235 in USB with phone patch for crew member catching Iberia 950 to Miami. (Doyie, CT)
12146.0 Heard at 1815 in USB, Recky 41 working MacDill with a phone patch to Bergstrom AFB. During the phone patch, heard Recky 41 tell Bergstrom he had been trying to contact them on 14501.5. The latter one is not a frequency I have seen reported. Do you have any idea about its use? Any idea who Recky 41 is? (Jack Waterman, Mundeine, IL) Jack, Recky 41 is probably a SAC aircraft. The frequency you mention is a new one on my list; it is probably a SAC discrete for that mission. Nice catch-ed.
11300.0 Aeradio Nairobi, Kenya, working Speedbird 65 with position report in USB at 0213. (Dix, NY) 25 crew, classified destruction facilities required on landing plus fuel and transport bus. Frequency designator mentioned for this channel as “Dolly B.” (McDonald, BC, Canada)
11387.0 Singapore Volmet heard at 2240 in USB with aviation weather. (Mr. Deutsche Welle-At Sea)
11566.0 English female numbers/letters station heard in AM at 2204. (Frodie, MI) Probably one of the Israeli Mosha stations-ed.
11600.0 UNID station repeating “de target A” in CW at 1335. (Dix, NY)
12380.0 Two fishermen using XXX rated language talking about their jobs, no IDs at 0230 in USB. (Montgomery, PA)
12533.0 UPGL-General Cargo ship Frants Bogush working UFB-Odessa at 0135 in CW with position report. (McDonald, BC Canada)
12541.0 UPIO-Kompositor Rahkhanov RO/PO cargo working UFB in CW at 1942 with position report. (McDonald, BC Canada)
12565.0 YTHX-Yugoslav General Cargo ship Suma Dila working WCC with position report sailing for Gibraltar in CW at 1433. (McDonald, BC Canada)
12566.0 DUFH-MV Baita working WNU in CW at 1344. (McDonald, BC Canada)
12592.0 9VRR-Vehicle Carrier Venus Diamond working NNN with AMVER position report in CW at 1956. (McDonald, BC Canada)
12653.0 CBV-Vajparso Radio, Chile, heard at 1039 with a CW CW marker QRZ from FUM. (Dix, NY)
12687.0 JCT-Choshi Radio, Japan, heard at 0902 with a CW V marker. (Dix, NY)
12691.4 FUX-French Naval Radio Le Porte Reunion Island sending the usual V CW marker at 2138. (Dix, NY)
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15011.0 RCC Halifax and Rescue aircraft 111 working at 2016 in USB. Frequency not listed in my current SAR frequency list or Grove 5th edition Shortwave Frequency directory. (Fred Doyle, Alberta, Canada)

16775.0 DZHU-MV Vigan working NMN with an AMVER position report in CW at 1827. (McDonald, BC Canada)

16803.0 VGN-ice class Oil tanker Irving Arctic working VCS with AMVER position report in CW at 1625. (McDonald, BC Canada)

16808.0 HGBulk carrier Baltic Trader working WCC in CW at 1845. Leaving New Orleans. This is the ex-Seaward Ace. (McDonald, BC Canada)

16974.0 SPE81-Szczecin Radio, Poland, heard at 1536 with a DE CW marker. (Dix, NY)

16978.4 3BM-Mauritus (Bigara) Radio heard at 0425 with a CW CO marker. (Dix, NY)

17014.0 UER-Teleosya Radio, USSR, sending a CW DE marker at 0431. (Dix, NY)

17175.2 A2M-Mahm radio heard with a CW DE marker at 1142. (Dix, NY)

19227.0 CA17E-Hango Roa Air, Easter Island, heard at 2255 sending RTTY RYS using 850/500. (Kimpington, Ontario)

19373.0 Lima Aeradio working Eastern 977 with SELCAL and Eastern 987 with position report at 2147 in USB. (Dix, CT)

21670.0 Concours working Possible on frequency Whiskey 116. (Frantz, GA) Thanks for the new Whiskey freq. Bill. Battles here is one for your notes. Sounds like airborne command post type call signs.-ed.

21988.2 CLP1-Havana, Cuba, with a CW QSV/V marker at 1858. (Kimpington, Ontario)

20621.7 5KM-Bogota, Columbia, heard at 1835 with a RTTY RY's transmission using 850/75N. (Kimpington, Ontario)

20970.0 Canadian Military MARS stations VX99 (Nicosa, Cyprus), VX99 (Golan Heights), VX99 (Golan Heights), VX99 (unknown), CHAL (unknown), and 806 (Naval vessel) heard at 1555 in USB. (Frantz, GA)

22226.0 JN-Tohoku Radio, Japan, heard at 1455 with a CW CO marker. (Dix, GA)

22361.0 HEB-Berne Radio, Switzerland, heard at 1859 with a QSO in CW. (Dix, NY)

22636.0 URL-Sevastopol Radio, Ukraine SSR, at 1820 with a CW CO marker. (Dix, CT)

22149.0 LPD91/34-General Pacheco Radio, Argentina, sending a V CW marker at 1147. (Dix, NY)

22542.0 FUM-Papeete French Naval Radio, Tahiti, at 1850 in CW with a CO marker. (Dix, CT)

22581.0 UFN-Novorossiysk Radio, USSR, heard at 1904 with a CW ID then a short RTTY tone. (Dix, GA)

23720.0 JMG-Tokyo, Japan, sending Meteo data via RTTY at 0231 using the same frequency. (Kimpington, Ontario)

24132.8 Unid station carrying out simplex RTTY comms at 0355. Noted very brief transmissions and have been unable to ID. Anyone have anything on this? (Kimpington, Ontario) Not here, David, nothing in my files.-ed.

MONITORING TIMES January 1990
PRISON PEN PALS

"I am an inmate at the Augusta Correction Center in Craigville, Virginia," the letter began. "Currently, I am being held in an isolation cell for providing prison radio frequencies to Monitoring Times."

Naturally, I was intrigued by Mr. William K. Smith's opening remarks. His letter further stated that all of his radio hobby magazines, frequency lists, and other scanning material had been confiscated.

I wrote to the warden at Augusta and asked him if Mr. Smith's allegiations were true. Since the warden never responded, I can only assume that inmate Smith was telling the truth.

As an inmate, Mr. Smith must certainly conform to the rules and regulations set forth by the penal system. However, isolating an inmate for passing on frequencies that can be found in widely published scanner directories does seem rather harsh.

The remaining portion of Mr. Smith's letter continues:

The Augusta Correctional Center is a maximum security facility operated by the Virginia Department of Corrections and houses over 1000 inmates.

The radio equipment currently used consists of General Electric PE series hand-held units that are used in control rooms, cell blocks, guard towers, and security teams.

The master control room uses a Motorola remote base to communicate with other units within the prison. Naturally, the control room can also contact other law enforcement agencies that are located in the surrounding communities.

Correctional officers working within housing units utilize a "body alert" system. The system transmits tone encoded bursts that travel between the officer and the main dispatch terminal.

The prison utilizes the following frequencies:

F-1 460.530 F-4 458.050
F-2 453.050 F-5 458.275
F-3 453.275 39.12 Prison-to-prison communications

The F-1 frequency is monitored around the clock and is the primary channel. Exclusive communications with the warden take place on one of these frequencies, but the exact channel is unknown.

I would like to hear from readers concerning the frequencies used at the Augusta correctional center. I also enjoy writing about radio communications of other interests. My address is: Bill K. Smith KA3MPN, Augusta Correctional Center 152541, P.O. Box 1000, Craigville, VA 24430.

The way I see it, Bill enjoys being in trouble. After all, he is in prison. And don't forget, Bill wrote the above letter after he had been placed in isolation. With this in mind, I figured Bill would appreciate some additional ideas that would help to keep him in isolation.

Bill, if you have a standard FM/AM radio, try spreading apart the small coils that are located near the tuner; this will enable you to "scan" the aircraft band. If you have a cable ready television and want to monitor cellular car phones (doesn't everyone?), try tuning between channels 80 and 90.

MT Treasure Hunt

The holidays are over. Winter has arrived, and most of us are not looking forward to receiving our credit card statements. Here in the northeast it is too cold for outside activities, and it's dark by 5:00 p.m. Does it sound depressing? Would a free scanner radio from Ace Communications help to get your adrenalin flowing again? If so, welcome to the first MT Treasure Hunt of the new year!

The AR-950 is a 100 channel scanner radio with five separate banks consisting of 20 channels. The banks are lettered A through E and can be individually accessed by pressing front panel mounted buttons. The AR-950 provides user selectable AM/FM mode, delay and lock-out controls, and a rear panel mounted dB switch.

The scanner comes equipped with a mobile mounting bracket, a removable 12 volt wiring harness, and a 12 volt wall transformer for base installation.

The AR-950 is an ultra lightweight scanner radio that can be mounted in a wide variety of applications. In addition, the AR-950 is an ultra sensitive scanner that covers the following bands: 26-50, 108-136, 138-174, 406-512, 830-950 MHz. The sensitivity of the AR-950 is matched only by the ICOM R-7000. I personally found that the AR-950 is ideally suited for monitoring the low power, cordless phone band. With the AR-950, I've monitored cordless conversations that were not detected by my other scanners.

Before I give you the clues, there is one additional thought that should be mentioned. In past Treasure Hunts, I've sent post cards to readers who provided the wrong answers. This year, incorrect entries will simply be discarded. If you want your answers verified, provide an SASE.

All entries that correctly answer the questions will be placed in a box, thoroughly mixed, and one lucky winner will be selected by a random drawing. If you feel that multiple entries will improve your odds of winning, feel free to do so.
1. Provide the nationwide primary command post frequency of the Secret Service.
2. Provide two frequencies that are used nationwide by the Office of Engraving and Printing.
3. What image frequency would I enter into a Bearcat 800 XLT if I wanted to monitor 405.00 MHz?
4. The cordless phone base unit transmits a duplex signal. True or false?
5. Name a scanner radio that offers a CTCSS, Tone Squelch option.

Okay, that's all of them. Send your answers to the Treasure Hunt, P.O. Box 98, Brasstown, NC 28902.

**Frequency Exchange**

From Mount Vernon, New York, Tony Sexton wrote in to "set the records straight." Tony claims that the following frequencies cannot be found in scanner frequency guides:

460.275 Mt. Vernon Police F-1
460.075 Mt. Vernon Police F-2
155.220 West Chester Co., ambulance
153.830 Mt. Vernon Fire
481.780 Narc Channel
154.570 Cross Country Shopping Center F-1
154.600 Cross Country Shopping Center F-2
464.370 Saint Andrews Security F-1
469.762 Saint Andrews Security F-2

Tony indicates that he has confirmed these frequencies with a Bearcat 100XLT. Mount Vernon readers with further revisions or corrections are invited to respond.

Federal listeners in Rhode Island and Massachusetts will appreciate the following list that was submitted by Bob Murphy:

**OUT**

167.6625 167.7625 FBI, Providence, RI
167.2625 167.975 FBI, Eyeter, RI
167.1725 167.975 FBI, Providence, RI
167.7625 167.975 FBI, Shanock, RI
167.3875 New simplex channel numerous locations
167.6125 163.9875 FBI, Worcester, MA
167.2375 167.975 FBI, Foxboro, MA
167.4625 167.975 FBI, Fall River, MA
167.2875 Simplex FBI, Worcester, MA

**IN**

162.125 Unknown agency
166.435 Input to U.S. Customs repeater
162.325 Unknown, DVP in use
162.400 Unknown
162.475 Unknown
162.530 Unknown
165.2625 Unknown

In return for his contribution to the Frequency Exchange, Bob asked if someone could provide him with a frequency listing for Vermont.

Since we are visiting the New England area, let's take a peek at an anonymous list of Massachusetts and New Hampshire security frequencies:

153.350 Ingersoll Rand, Nashua, NH
153.080 Ingersoll Rand/Impco, Nashua, NH
151.775 BASF, Bedford, MA
151.775 TASC Reading Ch A
151.865 TASC Reading Ch B

---

The AR950 is the next Treasure Hunt prize -- All you guys already have one, right?

483.8125 TASC Reading Simplex, seldom used
154.515 Miter, Bedford, MA
154.600 Grossmans, Hanover, MA
461.200 Genrad, Concord, MA
462.325 Digital, various in New England
464.375 Lahey Clinic, Burlington, MA
464.375 New England Exc. Park, Burlington, MA
154.57 Burlington Mall, Burlington, MA
484.3625 New England Life, Burlington, MA, seldom used
464.500 Burns Security, hand-helds, seldom used
418.300 U.S. Postal Service South Station, Boston, MA
417.200 Federal Protection Service, nationwide (Boston)
464.325 Arthur D. Little, Cambridge, MA
123.075 AM Arthur D. Little Heliport
154.54 Mariner's Village, Spinaker Point, Portsmouth, NH
153.245 Data General, Portsmouth, NH Ch 1
153.275 Data General, Portsmouth, NH Ch 2
131.425 AM Data General, air-to-ground in New England
464.350 Data General, Durham, NH
153.230 Simplex Wire & Cable, Newington, NH
152.42 Newington Mall, Newington, NH
463.975 Foxrun Mall, Newington, NH
464.225 Foxrun Mall, Newington, NH
464.950 Pleasant Lane Mall, Nashua, NH
151.895 Lechmere, Nashua, NH

Are you enjoying the cold climate of the New England area? If so, our next step will be right up your alley -- Welcome to Edmonton, Canada. Gordon Needham has provided the Canadian Government Publishing Center address: Supply and Services, Ottawa, Ontario, Canada K1A 0S9. The folks at the center will provide a copy of the Canadian Spectrum Allocations Guide for $3.00. Ask for catalog #CO 22-33/1989 or later.

Scanner buffs interested in the 1990 flight demonstration schedule for the Canadian Snow Birds can write to: CFB Moose Jaw, Bushell Park, Saskatchewan, SOH, ONO. Here are a few Edmonton Airport frequencies that Gordon included in his letter:

CFB NAMAO (North of Edmonton)
118.000 Tower 325.900
121.800 Ground 275.800
119.000 Radar Approach
134.100 Radar Backup 349.600
121.100 Advisory 238.300
121.500 International Emergency
149.140 Base Operation
149.140  Crash and Rescue
149.350  Military Police
149.440  Base Transportation
149.650  Air Show Frequency
282.800  Search and Rescue
294.700  Skyhawks Jump Team
383.700  Air-to-ground

Anyone wishing to contact Gordon can do so by writing to the Frequency Exchange, P.O. Box 98, Brasstown, NC 28902.

Ready to travel to warmer climes? Let's travel down to Dallas, Texas, and check in with Ben Saladino. Ben has sent in over 900 frequencies for the Dallas/Fort Worth area. Better yet, Ben claims that he has personally confirmed every frequency contained in the list. His monitoring station includes three PRO-2004s, a PRO-30, PRO-34, Regency MX 4000 and a Bearcat 950. Here is a sample of Ben's list:

300.7500  Air National Guard, Dallas NAS
34.50  Army Reserve Helicopters, Dallas NAS
34.70  Army Reserve Air operations
123.4750  Bell Helo flight test
143.9000  Civil Air Patrol repeater in
36.10  Army Reserve, Mineral Wells
462.2250  Bell Helo security
165.2375  U.S. Customs F-1
165.4375  U.S. Customs F-2
140.10  Flight line operations, Dallas, NAS
155.7150  Dallas, Constables
154.9050  Texas, Alcoholic Beverage Commission
159.2700  Texas, Parks and Wildlife
855.9625  Dallas, "Cab Cops"
173.5125  Carswell AFB, Aircraft readiness
413.450  SAC Crew Alerting

If you are interested in the complete 19 page list, send an SASE (business size, #10) to the Frequency Exchange, P.O. Box 98, Brasstown, NC 28902.

That wraps it up for this month, folks. I hope you don't mind being left in the state of Texas. After all, I could have left everyone in the freezing temperatures of New England.

Scanning the Rolling Stones

When the Rolling Stones rock band came to Baldwinsville, New York, Stan Fenney monitored the entire performance on 161.670 MHz. According to Stan, the frequency was active before, during, and after the concert. Total transmission time was approximately nine hours. Stan further stated that while the audio quality was marginal, it was better than missing the performance. Better yet, it was free.

Although Stan didn't explain how this happened, I would guess that it was a remote feed to a television or radio station that was inadvertently left in the transmit mode.

Smiling for Connecticut Radar

In the October 1989 "Scanning Report," I offered a list of Connecticut Photo Radar locations. The units were reported to automatically photograph speeding vehicles.

Wayne Schulz of East Hampton, Connecticut, claims that the units appear to be small traffic control boxes and nothing more. Upon further examination, Wayne found that the boxes were empty, with no apparent opening for a camera.

For now, the idea of receiving a ticket based on photographic evidence seems remote. If you want to personally investigate the locations, I'll send them to you for a SASE. While we are waiting for the results of this reader investigation, I'd be interested to hear from anyone who has received a photo speeding ticket.

The Secret Village

The village of River Forest is located in the suburbs of Chicago. Walt Kelly reports that River Forest is a multimillion dollar community that is home to several MOB figures.

The River Forest police department frequency, according to Walt, was a well-guarded secret. However, Walt recently discovered that the confidential frequency was 151.4025. But wait, there's more. The emission mode is FM sidestand.

Cordless Invaders

In my March 1989 column I explained how to specifically tune a long-wire antenna for the cordless phone bands. As most of you already know, the cordless bands are one of my favorite monitoring targets.

When Consumer Reports reviewed cordless phones in their December 1989 issue, they mentioned Monitoring Times and my column to warn cordless phone owners about third party eavesdroppers.

Although I applaud Consumer Reports for attempting to warn consumers about cordless monitoring, I'm afraid the warning will not be taken seriously. I've personally warned several of my neighbors about cordless phone monitoring. I've even repeated their conversations! However, they just keep on using the things. I can't figure it out.

In case you are wondering, Consumer Reports listed the Southwestern Bell Freedom Phone, FF1725, as having the maximum range. If you would like to monitor the Freedom Phones in your neighborhood, send an SASE and I'll send you my cordless antenna plans for free! Happy monitoring.

Be Kind, Don't Respond

For the next two months I don't want anyone to enter the January/February contest. If I don't get a response, I'll keep the AR-950 for myself. So, be kind to me. Forget about the Treasure Hunt, allow me to keep the radio, and everybody will be happy.

Thanks, I knew you guys would understand.

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limate HITECH computer (IBM PC) for control,
logging, scanning, spectrum analysis. Using
most current radios. Free CRIS Newsletter (CALL)
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- PRICES DO NOT INCLUDE FREIGHT
- SORRY, NO CDS
- RETURNS SUBJECT TO 15% RESTOCK FEE
New Edition Air-Scan

It's the most comprehensive guide to aeronautical communications ever compiled. And it's available in an all-new 5th edition.

Covering 2 to 30 MHz, 30 to 50 MHz, 108 to 174 MHz and communications over 406 MHz, Air-Scan is the perfect frequency guide for anyone who enjoys aero monitoring.

Included is control towers, ground control, weather communications, approach-departure frequencies, aero telephone call frequencies, airport security, military frequencies and much more.

The new edition also includes private airports outside the aero bands, plus all of Canada, Caribbean, Pacific, and North Atlantic frequencies plus VHF military.

From Air Force One to Air Traffic Control, Air-Scan covers it all in 192 pages. The all new 5th edition is just $14.95 plus 1.25 bookrate or 2.50 UPS from DX Radio Supply, P.O. Box 360, Wagontown, PA 19376. Air-Scan ships in January.

Yipes! That Scanner is Loud!

A company called Emulation Associates in Stamford, Connecticut, is offering a module that "maintains the volume level of amateur, business, CB, marine radios and scanners."

According to the company, REGEN-1 will "amplify signals and attenuate a strong audio signal, keeping volume at a nearly constant level regardless of incoming signal strength and reduce un-squelched FM hiss."

REGEN-1 is compatible with sets using audio attenuator-type volume controls and attaches with adhesive foam backing. Simple instructions are included.

To order, send your check or money order for $39.95 to Emulation Associates, 520 Glenbrook Rd., Ste 203-G-12, Stamford, CT 06906. For more information call 203-356-1632.

Radio Facsimile from ACE

ACE Communications of El Toro, California, has introduced a stand-alone radio facsimile terminal. The terminal, called the WX-1000, is designed to produce copies of various radio facsimile services, such as NOAA weather charts, press photos, NFAX, and even satellite weather pictures.

While the WX-1000 is a stand-alone, it does require audio from a shortwave receiver or S-band receiver capable of picking up facsimile signals.

The built-in high-resolution 24 pin thermal printer produces crisp images and is capable of grey scale necessary for APT (Automatic Picture Transmission) by satellite.

For more information, write to ACE Communications, 22511 Aspen Street, El Toro, California, 92630.

Adjacent text describes instructions for placing local and long distance calls, billing rates, and special emergency and informational numbers for both wireline and non-wireline services.

An appendix provides a list of area codes, alphabetized by city and state, as well as an area code map. An informative aeronautical glossary and a useful list of toll-free 800 numbers for the traveler are included.


Fox Tango Sold

International Radio and Computers, Inc., of Port St. Lucie, Florida, is now the exclusive distributor for Fox Tango crystal filters and other products. IR&C's address is 751 South Macedo Blvd., Port St. Lucie, Florida 34983.

Cellular Telephone Directory

Is there a cellular telephone service in your area? This fact-filled little book from Communications Publishing Service will tell you. Designed for cellular users on the move, The Cellular Telephone Directory is a state-alphabetized compendium of every cellular phone area in the United States, Canada and many foreign locations as well.

For each major area, a map is given along with a footprint of primary coverage for cellular mobile telephones.

Space Almanac

"Delightfully informative; easy reading; comprehensive" -- These descriptions aptly apply to the Space Almanac by veteran writer Anthony R. Curtis, editor of Space Today magazine.

Two inches thick and containing a half-million words, Almanac delivers just what the title promises, a detailed, chronology of all things space: New knowledge about our solar system and the universe, descriptions of space missions, profiles of astronauts and their experiences, calendars of upcoming space launches, historical highlights, and summaries of foreign space programs as well as American.

What's the safest way to view sunspots? How does the Search and Rescue satellite work? What prevents a weather imaging satellite from becoming useless when a lamp burns out? Who was Musa Manarov? How much did the joint Mars flight cost? What are our plans to return to the moon and visit Mars? It's all here.

January 1990
The advertising promoting the book said, "You won't want to put it down." Amazingly enough, they're right; it's great reading.

Find out for yourself by sending $19.95 plus shipping to Acrosoft Publishers, PO Box 132, Woodsboro, MD 21798; phone 301-845-8856.

A Guide to Facsimile

With the ready availability of photofacsimile equipment now reaching the consumer market, more listeners than ever are monitoring the shortwave bands, copying weather maps, news photos and other graphic material being transmitted by government and commercial agencies worldwide. While the majority of such transmissions are navigational in nature—satellite weather photos, maritime conditions, sea ice and other warnings—other types of visual material is sent as well, enough to provoke the curiosity of thousands of avid FAX fans.

Jörg Klingenfuss describes the ninth edition of his Guide to Facsimile Stations as "The most comprehensive, reliable and up-to-date manual in existence." As modest as this claim appears, it is probably quite accurate. It has been some time since another FAX directory has seen print.

Profusely illustrated with sample weather maps, charts, scales, photofaxes and tables, the guide also contains an excellent sourcebook for equipment and supplies for the facsimile receptor.

Additional chapters explain the formats of various types of transmissions, including how to interpret the various symbols and abbreviations which accompany them. Almost 400 facsimile frequencies, along with transmission schedules, addresses and an alphabetized list of call signs are included.

The Guide is available for $19.95 plus $1 shipping from Universal Shortwave, 1280 Aida Dr., Reynoldsburg, OH 43068 or from the author at Klingenfuss Publications, Hagenloher Str. 14, D-7400 Tuebingen, Federal Republic of Germany (see ad in this issue for pricing).

To have your new product or book considered for review in Monitoring Times, send it to Editor, 140 Dog Branch Road, Brasstown, NC 28902.

2 things ... that are not fun about scanning:
1. Not having enough money to buy all the neat, new equipment available, and
2. Not being able to organize your frequency information the way you would like it.

Well, I can't help you with the first item, but let me tell you about something new on the market for the second one.

EAGLE’S VIEW
FREQUENCY MANAGEMENT SYSTEM (FMS)

FMS is a new software package for IBM PC's that will give you instant access to any information you want.

- Organizes & searches by Frequency, Agency, Call, City, & more!!!
- Large, friendly display will show you any information you need.
- Keeps track of frequency entries for up to 4 scanners.
- Database size limited by the size of your disk.
- Allows you to save calls, frequency codes & acronyms used with each entry.
- Includes fields for Latitude, Longitude, & bearing from your QTH.
- Soon to come! Control your ICOM R7000 or R71 from your database.
- And More!!

System recommendations - IBM PC XT/AT and compatibles with at least 384K memory. Hard disk strongly recommended. Supports monochrome or color displays (CGA,EGA,VGA).

- 2 disks include program & database structures
- $89.95 for entire package with manuals
- Demo disk available for $8.95. Manual available for $15.00
- Please specify your memory size and floppy or hard disk.

Send check or money order to Eagle's View, 5019 Yorkshire Dr, Ft. Wayne, IN 46806-3551 (Include 5% tax if you live in Indiana)

1990 Forecast: ICOM to Rise in Receiver Market

A premature announcement by a European distributor gave British readers of Practical Wireless magazine a sneak preview of ICOM's 1990 releases. While ICOM America representatives confirmed that several new products are planned for introduction second quarter of next year, they are not intended to replace current ICOM models which will remain in production.

One of the new offerings is a shirt-pocket-size scanning receiver with continuous 150 kHz through 1300 MHz frequency coverage and AM/FM reception. Touting 100 memory channels, the tiny unit looks like the immensely popular IC2S transceiver. The pocket receiver has a choice of 11 search step increments (0.5/1.5/5.0/10.0/12.5/15/20/25/30 kHz) and sports both an S meter and a tuning knob! Other functions include a power-save circuit and a clock timer. Cost for the high-end scanner is expected to be in the $600 range.

For the shortwave enthusiast who can't afford the niceties of the R71A general coverage receiver, ICOM has taken out a few of the ancillary functions and will offer a scaled-down version of that popular standard. Stil loaded with important features like all mode reception, 99 memory channels, a dual-function noise blanker and full 30 kHz-30 MHz frequency coverage, the receiver is intended to fill that price gap between low-priced portables and higher-priced professional radios like the R71A.

Finally, for the mobile listening enthusiasts, there will be a full-frequency-coverage scanning radio with 100 kHz-1856 MHz frequency range and 100 memory channels. Similar to the little pocket receiver this mobile version will have multiple search increments (1/5/8/9/10/12.5/20/25 kHz) and will include 20 separate search ranges as well as a multifunction clock timer.

It is not expected that any of these radios will be available before introduction at the Dayton Hamvention. MT will publish hands-on reviews of these three new receivers as they become available.
A Beginner’s First Twenty Countries

Ah, New Year! One door closes, another opens. A time for looking back and then setting one’s sights firmly on the future.

A big part of my annual reminiscence is to go over the old log books. I usually start with a gander at my accomplishments over the past year, but somehow I always get drawn all the way back to those first few yellowed pages of information. Everything was new and any catch was a great catch. Jon Cohen, WB2KKS, once defined DX as “any country you haven’t logged yet.”

Knock off the nostalgia stuff and get to the point, Uncle Skip!!

Well, for starters, this is a beginner’s column. To be sure, everyone has to start some place. So for all those folks just starting toiddle the dials as debutting DXers, Old Uncle Skip shall wax nostalgic over his first twenty shortwave broadcast loggings giving fodder and fuel for all those folks who finally received that world band radio for Christmas but who just don’t know where to tune.

All you old timers can stick around too; you might just give a listen to some station you have skipped over for years. It’s like running into an old friend. So with that, I give you --

UNCLE SKIP’S GUIDE TO YOUR FIRST 20 COUNTRIES!!!

1. THE UNITED STATES OF AMERICA

Talk about stating the obvious! Actually, this logging reminds me of how much change has gone on in shortwave broadcasting over the years. Back when I first logged the good old US of A, all you could chase down was The Voice of America and the Armed Forces Radio and Television Service.

Well, these days you need a satellite dish to grab AFRTS, but good old VOA is still out there. Also, you will find quite a few other shortwave broadcasters in the US now. WINB, WRNO, WHRI, WMLK, WWCOR, WSHB, WCSN, WYFR, and KUSW are all indications of how the commercial radio establishment has embraced shortwave. And lest we forget, you can send QSL reports out to these guys for regular surface postage.

2. CANADA

Just like its sister to the south, Canadian shortwave outlets have blossomed over the years. In addition to Radio Canada International, you will find the regional network stations worth listening to. This would include stations such as CFCC, CHNS, and CKWX.

There are several highly charged political and environmental issues between the United States and Canada (eg. acid rain). Listening to both sides of the story and both countries’ efforts to resolve the problem is very interesting indeed.

3. PEOPLE’S REPUBLIC OF CHINA

Now here is a nation that has gone through some changes! When they first hit my log, they were good old Radio Peking, loaded down with fairly strong anti-American rhetoric. Then one day Richard M. Nixon stops in for cocktails and Peking becomes Beijing, the “running dog” rhetoric turns into a travel brochure and the postman stops looking askance when my China Today magazine arrives.

Just when things were looking up, the tanks rolled in and a decided chill has dropped over the airwaves. My suggestion is to keep on listening, folks, because this is one place in the world where history is happening by the hour.

4. FEDERAL REPUBLIC OF GERMANY

West Germany’s primary outlet to the world is Deutsche Welle. Their “World News” programming is always a joy to listen to. It’s kind of fun to be at a party, blending in with the conversation about current events, dropping lines like “Well, Deutsche Welle indicated that...” It makes you sound real cosmopolitan.

See the point, Compadre? You have only logged four stations and your horizons are already expanding.

5. CUBA

Radio Habana is a neat logging in that you can grab it on shortwave and also tune in its parallel broadcast at several points on the mediumwave band. Of course, this is another country whose relationships with Uncle Sam ebb and flow.

A few years back they were fairly upset at the establishment of Radio Marti. The Ministerio De Comunicaciones responded by powering up a mess of transmitters that made life pretty miserable for mediumwave listeners, especially in the southeastern United States. Things have calmed down for the moment but it never hurts to keep an ear -- or in the case of TV Marti, an eye -- peeled.

6. ISRAEL

Kol Israel is your gateway to the Middle East. It also seems to have the widest variety of English language programming coming out of that region of the world. So, if you are not up on your Arabic, give it a listen.

7. CZECHOSLOVAKIA

Radio Prague is an excellent station to go after in order to put eastern Europe in your log. My early loggings go back toward the days of the “Prague Spring.” Again, this is a corner of the world that is going through dramatic changes.

8. RUSSIA (U.S.S.R.)

I don’t think you even need a frequency guide to come up with this logging. Just tune around a bit, anywhere on the band. Radio Moscow is sure to be there somewhere. With shortwave broadcast as their primary way to reach the whole world, the U.S.S.R. has some mighty powerful transmitters.

If you are an aficionado of jazz, you will find some very interesting music programs in that idiom. Of course, keeping track of Glasnost is an excellent radio pastime. Since these folks have stopped their annoying habit of jamming, some of those transmitters have even been turned over to the broadcasting service. Needless to say, their programming has grown very sophisticated over the years.

9. NETHERLANDS ANTILLES

Radio Nederland is probably the station that gives all beginners their first lesson in DX geography. Many folks call the Netherlands “Holland.”

The trick is that when you usually receive Radio Nederland in the United States, you are hearing its signal from Bonaire, an island in the Dutch Antilles, which is in the West Indies. Actually, it’s on easy 4500 miles from Holland. So, as you can see, its not always easy to figure out where to put the pin in the map when you are dealing with relay stations.

But geography aside, this station’s “Media Network” program remains one of the best programs in shortwave radio.

10. AUSTRALIA

You have to get up pretty early in the morning to become a great DXer. Well, not that early. But if you take some time to tune around with your morning cup of coffee, I am sure you will run across this logging. Both Radio Australia’s overseas service and ABC Perth show up in the early morning. Just be careful you don’t try to go through your day by their weather report. We are talking a whole different hemisphere here, folks!

Intermission

Hey, Uncle Skip! You are not giving out any frequencies or program times. What’s the deal?
HCJB is a powerful South American broadcaster

Simple, Sancho. Remember, Bunky, you are reading Monitoring Times! Just flip a few pages south of here to Kannon Shanmugam’s “Program Guide” or Greg Jordan’s “Frequency Section” and you will be able to determine the most up-to-date place to go searching for your first twenty countries.

11. UNITED KINGDOM
In Uncle Skip’s humble home, there has always been at least one receiver tuned to BBC. You won’t win any DX contests with this logging but you will get hours of enjoyable programming. Think of “The Beeb” as a trusted old friend who is always there even when other DX is fleeting. Sound as the Pound and strong as the Tower of London. Their shortwave listener’s program “Waveguide” can be interesting and is geared more toward the beginner than many other DX shows.

12. SWITZERLAND
The Swiss Broadcasting Corporation’s external service, Swiss Radio International, is another station that is known for excellent current events and news broadcasting. If you are interested in the study of languages, this is one of several international broadcasters who produce some of their programming in Esperanto.

13. GERMAN DEMOCRATIC REPUBLIC
Things are definitely hopping, politically, in East Germany these days, what with a significant portion of their population crossing the border to become West Germans. It’s a pretty safe bet that Radio Berlin International will be there throughout the changing political structure. RBI is probably best known for its DX Club. Tune in for details.

14. ECUADOR
For most beginning DXers, HCJB, La Voz De Los Andes, remains their first introduction into the world of international religious broadcasting. It is also most folks’ first South American logging. Operated by the World Radio Mission Fellowship, Inc., I remain convinced that when they power up their 500 kW transmitters all the lights in the city of Quito dim!

15. EGYPT
Radio Cairo will serve up another taste of the Middle East for all who will listen. They tend to broadcast more in Arabic than English to North America but you can still find plenty of interesting English language programming.

16. VATICAN CITY
This is a very small country! When I show people my OSL card collection, they often get a kick out of my Vatican Radio card that pictures a microwave tower shaped like a giant cross. Needless to say, this is a religious broadcasting station.

17. GREECE
The Hellenic Broadcasting Corporation’s foreign service, The Voice of Greece, will bring the budding DXer in touch with the Mediterranean world. They have somewhat limited broadcasting directed to North America, but they remain a fairly easy catch for the beginner.

18. SOUTH AFRICA
Another station in a politically charged region of the world. Once you have QSLed these folks, you go on a mailing list that lasts forever. I received regular program schedules for five years! Great stuff, if you are looking for something exotic in your mailbox.

19. ALBANIA
This is an interesting logging even for the beginner. Below Yugoslavia and to the west of the bootheel of Italy lies this teeny socialist republic that never seems to get along with anyone. At least that’s how it seems when you listen to their broadcasts. For such a small place, they have an enormous external shortwave service. An easy, if somewhat odd, catch.

20. BRAZIL
We finish off with another trip to South America for the purpose of logging Radiobras via their 250 kW signal.

Are we having fun yet?

Every serious listener has a beginning. Everyone will have a different first twenty countries. Like your first car and your first kiss, you never forget them. If you want to shoot for one or two off Old Uncle Skip’s list, please drop me a line and let me know. Remember to have fun along the way!
Monitoring Military Aircraft

Over the years, the federal frequency bands have yielded some of the most exciting monitoring to be found on the radio spectrum. But it wasn't until recently — specifically the introduction of programmable scanners — that the job of finding new frequencies was made easy.

In the old days, monitoring the federal frequency bands was difficult. First, you had to have an old, surplus government receiver since the scanners of the day did not cover these bands. Second — and perhaps worst of all — these old government rigs used analog tuning. That meant that tuning accuracy was nonexistent.

And with these old surplus rigs, scanning for new frequencies was not an option. The only way to spot a new or active frequency within this slice of 175 MHz was to slowly tune the receiver until a signal was encountered.

For many years, military aircraft buffs asked the question, "When will we get a scanner to let us listen between 225 and 400 MHz?" Manufacturers didn't turn their heads away for long. Yet even with all the new scanners on the market, this band still remains relatively unexplored.

We here at Monitoring Times would like to find out what you are hearing on these frequencies. Your lists of military aircraft frequencies are always welcome. To help a newcomer get acquainted with the band, we've put together Table I. It's an exciting and intriguing segment of the spectrum.

"Alpha Bravo" Discussed

Monitoring Times reader Daniel L. Burn of Alexandria, Virginia, has been monitoring the "Alpha Bravo" Orderwire system in the military aircraft band.

Dan says that for the last few months he has been listening to wideband FM activity on 322.750 MHz with a PRO-2004. He says when a tone is present, that is the signal to monitor for voice activity within the wideband channel.

Stations he hears appear to be using tactical calls such as: Ball Park, Team Work, Overhead, No Trump, Deep Cut, Iron Weed, etc. Other more recognizable call signs include: Air Force One, SAM 26000, SAM 974 and 972.

The 322.750 frequency has been heard referred to as "Orderwire" and "AVMED" or "AD MEN" (can't pinpoint the exact name). Examples of "Orderwire" transmissions Dan has monitored include:

Chopstick, I have a flight for you. Air Force One coming up on your station on the 12th at 1540Z enroute to Yellowstone, need RF4 and 5 Delta. Also need stations Residual, Race Track, and Time Lady.

"Crypto is involved," Dan said, "because they make reference to KY-3s," which are a crypto device.

Dan says that he has also heard activity on 305.550 and 366.000 MHz wideband FM. Sunspot was called by a station and asked to try RF1. On 366.000, Postulate was called by Sam 974 on "Orderwire." He also heard references to 5-India, 5-Hotel, Combat Cinders, RF2 and RF5.

To monitor this activity, Dan bought an FRG-9600 receiver and finds that calls in progress are usually + or - 50 kHz from the Orderwire center frequency. Modes he has heard include: LSB/USB/Narrowband AM.

Now the treat. Dan provides you, our readers, with a complete list of these Orderwire frequencies and designators. See Table II.

Again, frequencies are in MHz, mode is wideband FM with phone patches taking place using sideband modes +/- 50 kHz of center frequency.

Now, what is all this that Dan is hearing? This Air Force system is called "Combat Cinder/"Autowon/"Wideband." This is a full-duplex FDM multichannel wideband FM communication system. Antennas for the system are located at nuclear hardened sites at many of the nation's autowon switching centers. This network also can be heard from various relay aircraft and emergency command post aircraft.

The system has provisions for secure voice and teletype (also FAX) as well as fully automatic autowon (the government's telephone system) voice trunks with standard autowon signaling and control.

Trunks are located on 12, 16, 20, and 24 kHz SSB channels. Zero-4 kHz is used for Orderwire-to-ground stations. All the frequencies for the system are in the 225-400 MHz band. Effective radiated powers

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**TABLE I**

<table>
<thead>
<tr>
<th>225-400 MHz Aircraft Band</th>
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<tr>
<td>230.400</td>
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<td>385.250</td>
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<td>387.900</td>
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**TABLE II**

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<th>Orderwire Frequencies</th>
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<td>RF10</td>
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### Table III

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<tr>
<th>European Bases</th>
<th>POLICE</th>
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<tbody>
<tr>
<td>Ramstein Law Enforcement (code name Lancer)</td>
<td>72.325, 72.375, 72.425</td>
</tr>
<tr>
<td>Ramstein Security (flightline, etc.)</td>
<td>Rotated randomly</td>
</tr>
<tr>
<td>USAFE Security Police (guards, HOs, VIPs, etc.)</td>
<td>72.100</td>
</tr>
<tr>
<td>E-HOF Security Police</td>
<td>F1 70.475, F2 72.175</td>
</tr>
<tr>
<td>Metro Police (town patrols and other posts)</td>
<td>39.700</td>
</tr>
<tr>
<td>Base Defense (used during exercises and the real thing)</td>
<td>53,000, 52,400, 52,125</td>
</tr>
<tr>
<td>Office of Special Investigations</td>
<td>138,075</td>
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<tr>
<td>Sembach Air Base Security Police</td>
<td>73.675</td>
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<table>
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<tr>
<th>FIRE DEPARTMENTS</th>
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<tbody>
<tr>
<td>Ramstein AFB</td>
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<tr>
<td>Vogelweh/Landstuhl/K-town</td>
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<tr>
<th>CIVIL ENGINEERS</th>
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<tbody>
<tr>
<td>Ramstein (also used as exercise/health net)</td>
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<tr>
<td>Vogelweh/Landstuhl/K-town</td>
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<table>
<thead>
<tr>
<th>MEDICAL</th>
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<tbody>
<tr>
<td>Ramstein Clinic</td>
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<tr>
<td>Landstuhl Army Hospital (2nd General)</td>
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<th>COMMANDERS NET/COMMAND POSTS</th>
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<td>316 Air Division/377 Combat Support Wing/GR 86 Tactical Fighter Wing</td>
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<td>512th AMU</td>
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<td>GOLF</td>
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<td>Ground control</td>
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Associated with this system are very high. One published description of the system said it was one kilowatt to counter absorption effects near nuclear fireballs.

This system is used primarily by Air Force One, Air Force Command aircraft from SAC, and the National Command Authority.

Many thanks to Dan Burns for all the great information (and tape!) that was forwarded to me. I hope to hear more from you in the future.

### A List from Germany

A list of interesting military base frequencies was forwarded from G.F. Keith, KASQFJ, at Ramstein AFB, West Germany. Many thanks to Mr. Keith for this look abroad, which we share with you in Table III.

### Back In The States

**Texas, To Be Exact**

I recently received a very nice list from a fed monitor in Texas. He wishes to remain anonymous, but wanted to share the following FBI information with our *Monitoring Times* readers.

### Dallas-Ft. Worth Metroplex

- 163.9125, 167.5125 F1 KFPR50 Dallas
- 163.975, 167.7625 KFPR51 Ft. Worth
- 167.3875 F2
- 167.250 F3
- 167.5625 F4
- 167.2125 F5
- 419.250 Control link for F1 repeater

### Houston

- 163.9625 F1 Repeater output
- 167.450 F3
- 167.5625 F4

### San Antonio

- 163.9875, 167.325 F1 KEX840
- 167.3875 F2
- 167.4125 F3
- 167.5625 F4
- 167.2125 F5
- 412.425, 412.575 Control links

I would like to again thank all our contributors this month for sharing their lists with us and invite the rest of our readers to send your material to the column address featured in the masthead. Time to crank up the scanner and check out some new frequencies in the Federal File. Till next month...

Soups up with our Super Amplifier!!

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- **Output:** BNC Connector
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**Morning Edition**

GRE America, Inc. (new dealers are welcome).
January 1990
West to Washington

First, I hope that everyone spent a happy holiday season, and that Santa Claus was good to each of you. This month the state of Washington is our subject. Without prolonging the agony any further, let's have a look at what Bellingham has to offer the listener.

| 2.1825 | KIL 880 | SGC Inc. |
| 4.1250 | KEB 282 | Sea West Fisheries |
| 4.1250 | KEB 538 | William Gilbert, Jr. |
| 4.1250 | KZN 507 | Whatcom Marine Electronics |
| 4.1250 | WHF 837 | Schenck Seafoods |
| 4.1250 | WHG 98o | Diane Nelson |
| 4.1250 | WQB 534 | William C. Williams |
| 4.1250 | WRD 600 | Nelson Brothers Fishing |
| 4.1436 | KEB 282 | Sea West Fisheries |
| 4.1436 | WHF 837 | Schenck Seafoods |
| 4.1436 | WQB 534 | William C. Williams |
| 4.4198 | KEB 282 | Sea West Fisheries |
| 6.2186 | KEB 282 | Sea West Fisheries |
| 6.2186 | KEB 538 | William Gilbert Jr. |
| 6.2186 | KZN 507 | Whatcom Marine Electronics |
| 6.2186 | WHF 837 | Schenck Seafoods |
| 6.2186 | WHG 98o | Diane Nelson |
| 6.2186 | WQB 534 | William C. Williams |
| 6.2186 | WRD 600 | Nelson Brothers Fishing |
| 6.2216 | KEB 282 | Sea West Fisheries |
| 6.2216 | WHF 837 | Schenck Seafoods |
| 6.2216 | WQB 534 | William C. Williams |
| 6.5219 | KEB 282 | Sea West Fisheries |
| 8.2911 | KEB 282 | Sea West Fisheries |
| 8.2911 | KEB 538 | William Gilbert Jr. |
| 8.2911 | KZN 507 | Whatcom Marine Electronics |
| 8.2911 | WHF 837 | Schenck Seafoods |
| 8.2911 | WHG 98o | Diane Nelson |
| 8.2911 | WQB 534 | William C. Williams |
| 8.2911 | WRD 600 | Nelson Brothers Fishing |
| 8.2912 | KEB 282 | Sea West Fisheries |
| 8.2912 | WHF 837 | Schenck Seafoods |
| 8.2912 | WQB 534 | William C. Williams |
| 12.4291 | KEB 282 | Sea West Foods |
| 12.4291 | WHF 837 | Schenck Seafoods |
| 12.4291 | WHG 98o | Diane Nelson |
| 12.4291 | WQB 534 | William C. Williams |
| 12.4291 | WRD 600 | Nelson Brothers Fishing |
| 12.4323 | KEB 282 | Sea West Fisheries |
| 12.4323 | KEB 538 | William Gilbert Jr. |
| 12.4323 | KZN 507 | Whatcom Marine Electronics |

The following list gives an idea of the companies which are using the radio in Seattle.

| 2.0965 | KFN 719 | John C. Rottler Northwest Instruments |
| 2.0965 | KGO | |
| 2.0965 | KJA 580 | G & L Marine Radio |
| 2.0965 | KKP | Foss Launch & Tug |
| 2.0965 | KMC 981 | Maritime Supply Co. |
| 2.0965 | KTR 903 | Honeywell Communications |
| 2.0965 | KYL 807 | Lunde Marine Electronics |
| 2.0965 | KZL 294 | Aubrey E. d'Cafango |
| 2.0965 | WHF 888 | Raytheon Service Company |
| 2.0965 | WHG 642 | Sea-Mar Electronics |
| 2.0965 | WOV | Sound Marine Electronics |
| 2.0965 | WQB 533 | Marine Electronics |
| 2.1820 | KFN 719 | John C. Rottler Northwest Instruments |
| 2.1820 | KGO | |
| 2.1820 | KJA 580 | G & L Marine Radio |
| 2.1820 | KKP | Foss Launch & Tug |
| 2.1820 | KMC 981 | Maritime Supply Co. |
| 2.1820 | KTR 903 | Honeywell Communications |
| 2.1820 | KYL 807 | Lunde Marine Electronics |
| 2.1820 | KZL 294 | Aubrey E. d'Cafango |
| 2.1820 | WHF 888 | Raytheon Service Company |
| 2.1820 | WHG 642 | Sea-Mar Electronics |
| 2.1820 | WOV | Sound Marine Electronics |
| 2.1820 | WQB 533 | Marine Electronics |
| 4.1250 | KCE 229 | Judi B Inc. |
| 4.1250 | KCE 324 | Clippetton Inc. |
| 4.1250 | KCY 50 | Vernon W. Lambert |
| 4.1250 | KEB 491 | Ote Hendricks |
| 4.1250 | KFN 719 | John C. Rottler Northwest Instruments |
| 4.1250 | KGA 259 | Reidar Tymes |
| 4.1250 | KGO | Northwest Instruments |
| 4.1250 | KII | Master Yacht Marine |
| 4.1250 | KIY | Marine Power and Equipment |
| 4.1250 | KIZ 253 | Scott L. Bowlden |
| 4.1250 | KIZ 741 | Arnold Rasmussen |
| 4.1250 | KJA 580 | G & L Marine Radio |
| 4.1250 | KJB 299 | Thomas G. Hanson North Pacific Transportation |
| 4.1250 | KKF | Mark I Inc. |
| 4.1250 | KKF | William A. White Enterprises |
| 4.1250 | KLM | Sea Alaska Products |
| 4.1250 | KMC 249 | Peter Njordvik Seattle |
| 4.1250 | KMC 943 | Kristofer Knutson |
| 4.1250 | KMC 955 | Mokuhana Fisheries |
| 4.1250 | KMC 981 | Maritime Supply Ildhuso Fisheries |
| 4.1250 | KME | Whitney Fidalgo Communications |
| 4.1250 | KMN | Earnest Mathison |
| 4.1250 | KPB 594 | Kristian E. Poulsen |
| 4.1250 | KPB 602 | Main Fish Company |
| 4.1250 | KRF | Soren A. Sorenson |
| 4.1250 | KST | Sea Land Service |
| 4.1250 | KTR 873 | KK Fisheries Inc. Honeywell Communications |
| 4.1250 | KTR 903 | Knappton Maritime Enterprises |
| 4.1250 | KUZ 388 | CWC Fisheries Inc. Westpoint Fisheries |
| 4.1250 | KUZ 505 | Joseph R. Frifrock |
| 4.1250 | KWS 628 | XTE 247 U.S. Dominator Inc. |
| 4.1250 | KXJ 694 | Karl J. Hansen Enterprises |
| 4.1250 | KXZ | Knappton Maritime Enterprises |
| 4.1250 | KYI 593 | Bellingham Cold Storage |
| 4.1250 | KYY 907 | Lunde Marine Electronics |
| 4.1250 | KYO 852 | Western Pioneer |
| 4.1250 | KYO 856 | H & N Shrimpers |
| 4.1250 | KZA 959 | Leland T. Shelford |
| 4.1250 | KZC 558 | W H Autopilots Inc. |
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4.1250 KZJ 379 Northern Marine
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4.1250 KZK 517 Hemlock Inc.
4.1250 KZK 877 Harold Clausen
4.1250 KZL 294 Aubrey E. d'Cafango
4.1250 KZL 391 Bristol Fisheries Inc.
4.1250 KZL 659 Washington Fish & Oyster
4.1250 KZL 877 Perry A. Buholm
4.1250 KZN 578 Deep Sea Inc.
4.1250 KZP 609 Donald P. Newman
4.1250 KZU 969 Puget Sound Freighter
4.1250 KZV 687 Jack G. Johnson
4.1250 KZV 714 Peter Strong
4.1250 KZV 816 Alaska Shipping Company
4.1250 WDI Royal Viking Fisheries
4.1250 WDT 530 Bomar D. Peterson
4.1250 WDT 534 Whatcom Marine Electronics
4.1250 WFA 739 Baker Marine Management
4.1250 WHD 620 Sea Elf Fisheries
4.1250 WHD 826 Manuel da Cruz
4.1250 WHD 834 Polar Star Fisheries
4.1250 WHF 888 Raytheon Service

Company
4.1250 WHG 586 Kenco Ocean Towing
4.1250 WHG 642 Sea Mar Electronics
4.1250 WHG 805 Alan M. Pelton
4.1250 WHG 883 Donna L. Tegol
4.1250 WHH 227 Watson Enterprises
4.1250 WHH 250 Sunnar Shipping
4.1250 WHH 272 Peggie Ann Anderson
4.1250 WHH 393 Pierre Rajotte Inc.
4.1250 WHU 415 Western Geophysical
4.1250 WOA Alaska Shell
4.1250 WOV Sound Marine Electronics
4.1250 WQA 221 Pser Inc.
4.1250 WQA 253 Puget Sound Instruments
4.1250 WQA 279 Dressel Pacific Company
4.1250 WQA 840 Gail A. Tate
4.1250 WQA 841 Dennis Petersen
4.1250 WQB 317 Mason J. Williams
4.1250 WQB 332 Pete Haugen
4.1250 WQB 335 Jacqueline Hegevold
4.1250 WQB 449 Isaford Co.
4.1250 WQB 623 Kaldestao Fisheries
4.1250 KQB 802 Stephen D. Nehen
4.1250 WOB 859 Aus Fisheries Inc.
4.1250 WQH 692 Andrew J. Moritz
4.1250 WQZ 253 Nancy L. Andrich
4.1250 WQZ 258 Deep Sea Fisheries
4.1250 WQZ 312 Sea Run Seafoods
4.1250 WQZ 456 Blue Ocean Fishing
4.1250 WQZ 490 Donald J. Trimberger
4.1250 WRD 611 Frank D. Huff Co.
4.1250 WRD 613 Vessell Management
4.1250 WRD 631 Myhre Enterprises
4.1250 WRD 746 Rudy A. Peterson
4.1250 WRD 747 Donald P. Newman
4.1250 WRD 756 John O. Crowley
4.1250 WRS 936 Pacific Fleet Inc.
4.1250 WRS 962 Seven Seas Fishing
4.1250 WRS 976 Silverado Corporation
4.1250 WSS Norwegian Fisheries
4.1250 WXY 903 Westness Inc.
4.1250 WXY 952 Palmer Pedersen
4.1250 WXY 959 Speedwell Inc.
4.1250 WZX 203 Larry Hendricks
4.1250 WZX 245 Elmar Langesater
4.1250 WZX 362 Icicle Seafoods Inc.
4.1250 WZX 477 Daniel E. Webster & Co.

Other frequencies on which stations in Seattle can be heard include: 4.1422, 4.1436, 4.1822, 4.4194, 6.2172, 6.2186, 6.2216, 8.2907, 8.2906, 8.2911, 8.2938, 8.2942, 12.4987, 12.4309, 12.4323, 12.4354, 16.5859, 16.5871, 16.5902, 16.5933, 22.1226, 22.1240, 22.1257, 22.1271, 22.1300, 22.1333, 22.1364. All frequencies are in megahertz.

Those of you interested in monitoring cruise ships will have more to look forward to. Holland America has recently announced that they are negotiating for the construction of three new cruise ships which will probably be delivered in 1993, 1994, and 1995 with the total value of the order being in the range of 600 to 700 million dollars.

Good listening until next time!!

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Confined Space Hamming - Part 2

Last month we showed you some solutions to the "where to put the rig" problems many of us have when we live in an apartment or small home. Now let's take a look at some antennas that will allow us to get on the air!

All of the antenna ideas presented here (with one exception) have been used at some time or the other at one of my station locations with decent results.

Some Things to Keep in Mind

Never attempt to erect an antenna where there is the danger of it coming into contact with a high voltage line. If this is impossible to do, consider one of the alternatives offered here.

A good ground is vital to success! If you cannot run a ground directly to the earth or make a solid cold water pipe connection I suggest using a single radial (a single wire one quarter wavelength long - use the formula $F_{MHz} = 234$ to find correct length) for the lowest frequency you want to work. An alternative idea is to use the MFJ Artificial ground model MFJ-931. This device (available from MFJ Box 494, Miss. State, MS) will repay its $79.95 price many times over in good solid contacts from not so great antennas.

Unless you are running high power do not be too concerned with wire size. Twenty-two gauge wire will easily handle the average 100 watt amateur transceiver, and enamel wire is very difficult to see if the antenna must be disguised. As is always the case, try to use the heaviest possible gauge.

If you must use 30 gauge to avoid detection by the landlord/neighbors, then use it. Remember though, soft drawn wire (such as hook-up or magnet wire) cannot be used for free spans as it will stretch and easily break. Use hard drawn wire or copper covered steel if the antenna is going to be run as a free span device between two high points.

Purchase or build a good antenna matcher; there are many on the market. Pick a reliable design and learn to use it. Such a device will give you much greater flexibility when experimenting with antennas. Considering today's no tune transmitters, I can't understand why there is not an antenna matcher (or match box, or antenna tuner) in every ham shack. While the automatic tuners many manufacturers offer provide a degree of usefulness they simply cannot come close to a manual tuner for flexibility.

Vertical antennas work well if elevated or have an adequate ground system, horizontal antennas are less susceptible to noise than vertical antennas, and loop antennas are even quieter.

If you are erecting an antenna that will require climbing, throwing or stringing wires or ropes outside or inside, make it a rule to never work by yourself. Always have a helper along to provide a degree of safety and make the job easier.

Experiment

Don't be afraid to experiment with something different. There are many amateurs who use rain gutters, balcony railings and random lengths of wire thrown on the floor or run around the corners of the living area.

Idea Number One

If you have access to the roof of your living quarters, two very successful antennas are shown in figure 1. Figure 1A is an end fed wire antenna that is run along the peak of the roof. Try to get as much wire up as possible. Feed it on the end via your antenna matcher. Made out of enamel wire and secured in place with clear aquarium sealer, this antenna is difficult to detect, and in most cases works great.

Figure 1B is a variation on the same theme. Again, use aquarium sealer to secure the wire and the roof of the dwelling as a support. Form a continuous loop and feed it at one end with 300 ohm TV line and to the rig via your antenna matcher as shown in the diagram. The loop antenna has two advantages over the single wire. First of all, it will provide a measure of gain on some bands, and the loop reduces man-made noise to a considerable extent.

If it is impossible to follow the outline of the roof as shown in 1B, you might wish to try the loop shown in 1C. This antenna is strung along the peak of the house as a delta loop. A neat way of disguising this antenna is to use wire that appears to be Christmas light wire; naturally if you install decorations during the holidays you can always explain...
that you intend to leave the wires up permanently!

In both 1B and 1C, make the loop as large as possible and feed with 300 ohm ribbon wire via a transmatch. You can break the loop and feed it at any point. The objective is to get on the air -- let's not worry about polarization and efficiency at this point.

Idea Number Two

Everyone knows mobile antennas work fairly well. If you happen to have such an antenna, mount it as shown in figure 2A, feed it with 50 ohm coax via a transmatch, install a good ground or use the MFJ-931 and go to town.

Figure 2B uses a single 7-foot-long clothes pole and is connected in series with a coil to provide matching. The coil is constructed on a piece of one and one half inch PVC. Use 18 gauge enamel wire to wrap 60 turns close around the outside of the PVC (you will need a hunk of PVC about one foot long). Each third turn twist the wire about 5 or 6 turns to make a tap; use sand paper to clean the enamel off of each tap.

Connect a piece of 18 gauge wire 15 inches long to the end of the coil and attach an alligator clip to the free end. Use coax to feed the antenna via the transmatch.

To use this antenna, connect a 50 ohm dummy load to the transmatch and tune the rig to the center of the band you desire; now connect the antenna, use reduced power at the rig (just enough power to get SWR reading) and adjust the tap for the best match. Using the transmatch you should be able to work over the entire band of interest.

A Third Solution

A third interesting idea is the one presented in figure 3. This antenna, designed by C.F. Rockey, W9SCH, was presented in the Autumn 1989 issue of SPRAT (The newsletter of the G-QRP club) who have given their permission to reproduce this article in Monitoring Times.

As you can see, the antenna is extremely compact, being only 33 inches on a side. And it’s very easy to construct. The antenna requires about 15 to 20 pF to tune 15 meters, 30pF on 20, and about 60 pF on 30 meters. (No doubt the antenna would function on 18, 12 and 10 meters with a bit of experimenting.)

The designer says that fooling with the dimensions and turns on the toroid might improve operations, but the stated dimensions seem to be adequate. (If you try this antenna be sure to drop me a note and tell me how it works for you.)

Ok, now you have the idea, give it a go. I would appreciate hearing from anyone who comes up with something different in the way of confined space antennas that works.

FCC Writes Letters

As many of you know, there is an ongoing dispute about third party traffic on the 20 meter phone band. Much on-air discussion (arguing) has been going on. The ruckus has caught the attention of the FCC (not a cool condition), and the result has been a letter being circulated by the Commission to various amateurs and organizations requesting their input on the problem.

The letter states that 15 to 20 percent of the 20 meter phone band is being claimed by various amateurs and groups specifically for the purpose of handling third party traffic. According to the Commission there does not appear to be justification for this much third party traffic and they want to know why it should continue. Their feeling (and the feeling of many other amateurs) is that such traffic can be carried on by commercial services and should not be transmitted on the ham bands.

Requests for voluntary solutions have been solicited; however, the Commission does not rule out the possibility of a rule-making by the end of this year.

Hopefully something will be done to eliminate the problem soon. Strong stations have been carrying on phone patches daily and excluding other amateurs from using frequencies that should be open to everyone. Give a listen to some of these patches and you will understand the concern many of us feel. Some conversations are downright commercial in nature and others are plain useless.

220 MHz Allocations

Acting on behalf of the National Communications System, the Department of Justice has filed a petition in the US Court of Appeals for the DC Circuit, requesting that the court review the FCC action in Docket 87-14. Docket 87-14 denied reconsideration of the 220 MHz allocations decision.

The petition seeks review on the grounds that FCC action was arbitrary, capricious, and an abuse of discretion, and requests that the action be set aside and the matter remanded to the FCC. The case, United States of America vs Federal Communications Commission has been assigned case number 89-1635 by the Clerk of the Court. A similar petition for review filed earlier by ARRL was designated number 89-1602 (via ARRL).

That's it for January 1990. gang Here's wishing each and every one of you a happy an prosperous New Year. With luck, this will be the year the amateur service sees a no-code license. 73, Ike, N3IK
AUSTRIA
Radio Austria Int’l, 9875 kHz. Full data "Traditional Rural Costume" card, program schedule, and guide, without verification signer. Received in 69 days for an English report. Station address: A-1136, Vienna, Austria. (Tom Maslanka, Cleveland, OH)

BRAZIL
Radio Rio Mar, 9695 kHz. Partial data QSL card and map of Brazil, without verification signer. Received in 45 days for a Portuguese report, mint stamps, and one IRC. Station address: Rua Jose Clemente 500, Manaus, Amazonas, Brazil. (Sam Wright, Biloxi, MS)

CANADA
CBC-CBAF-TV 12. Full data confirmed letter and card. Received for a TV reception report and return postage. Verification signer, Marcel Cantin, Regional Superintendent, signed "The conditions must have been unique for you to have captured our signal, congratulations." Station address: P.O. Box 950, Moncton, New Brunswick, Canada. C1C 8N8. (station is located at Margaree, Nova Scotia) (Hank Holbrook, Dunkirk, MD) Kodak, Hank, on your top skip QSL!!-ed.

CBC-CBHA-TV. Full data "CBC Halifax" card. Verification signed H. Capp. Received for a TV reception report and return postage. Station address: CBC, Box 3000, Halifax, Nova Scotia, Canada. (Hank Holbrook, Dunkirk, MD)

CBC-CBHY-92.1 MHz FM. Full data CBC Halifax QSL card. Verification signer Melissa Sinclair. Received for an English reception report and return postage. Station address: Box 3000, Halifax, Nova Scotia BU 3E9, Canada. (Hank Holbrook, Dunkirk, MD)

ETHIOPIA
Voice of Ethiopia, 9660 kHz. Full data yellow card, stickers, and program schedule, without verification signer. Received in 75 days for an English report and three IRCs. Station address: P.O. Box 654, Addis Ababa, Ethiopia, Africa. (Sam Wright, Biloxi, MS)

GUAM
USCG Comm. Station/NRV. Full data QSL letter and station info letter. Verification signer CWO Ronald G. Wilkins. Received in 177 days for an English utility report. Station address: Communications Station Guam, Box 149 NCWP, FPO San Francisco, CA 96530-1845 (Gunter Wurr, Cuxhaven, W. Germany)

GUATEMALA
La Voz de Nahuala, 3360 kHz. Full data station card with personal letter and pennant. Verification signer, Juan Fidel Lepe Juarez. Received in 90 days for a Spanish report, mint stamps, and one IRC. Station address: Nahuala, Depto., Solola, Guatemala. (Sam Wright, Biloxi, MS)

LEBANON
Voice of Hope, 17775 kHz. Full data card with station photo and letter. Verification signer John D. Taylor, General Manager. Received in 85 days for an English report. Station address: High Adventure Ministries, P.O. Box 93937, Los Angeles, CA 90093. (Gunter Wurr, Cuxhaven, West Germany)

NEW ZEALAND
Radio New Zealand. Full data QSL card, souvenir Maori good-luck charm, and program schedule. Without verification signer. Received in 16 days for an English report, souvenir postcards, and three IRCs. Station address: P.O. Box 2092, Wellington, New Zealand. (Mark Stevens, South Sioux City, NE)

SHIP TRAFFIC
BULKERICE-IBFX-156.8 MHz (bulkcarrier). Full data prepared card. Received for a utility report and return postage. Ship address: Bulkitalia, 16125 Genova, Italy. (Hank Holbrook, Dunkirk, MD)

M/S IRVING ESKIMO-VCRJ-12137 kHz USB (Canadian merchant ship). Full data prepared form card, color photo of the wheelhouse, and a fact sheet on the vessel. Verification signer, Alfie. Received in 14 days for an English utility report, souvenir postcard, and one U.S. dollar. Station address: c/o Kent Line Ltd., Box 725, St. John, New Brunswick, E2L 4B4, Canada. (Richard Albright, Merced, CA)

YNG-18-HMCS Porte de la Reine-CYUB, 6200 kHz (Canadian naval vessel). Partial data prepared form card stamped with ship's dated stamp. Without verification signer. Received in 15 days for an English report, a souvenir postcard, and one U.S. dollar for return postage. Station address: c/o FMO Victoria, British Columbia V0S 1B0, Canada. (Richard Albright, Merced, CA)

USCGC Sedge WLB-402, 6200 kHz USB. Full data prepared form card and a warm note from RMT Scott J. Santa. Received in 7 days for an English utility report, a souvenir postcard, and return postage. Station address: c/o Box 101, Homer, Alaska 99663 (Richard Albright, Merced, CA)

NOAA-McArthur-5330, 6200 kHz USB. Full data prepared form card and ship fact sheet. Without verification signer. Received in 20 days for an English utility report, a souvenir postcard, and return postage. Station address: c/o 1801 Fairview Ave., East Seattle, WA 98102-3767. (Richard Albright, Merced, CA)

SOUTH AFRICA
Radio RSA, 9615/9585 kHz. Full data "White Rhino" card, station pennant, sticker, schedule, and magazine. Without verification signer. Received in 28 days for an English report and three IRCs. Station address: P.O. Box 4559, Johannesburg 2000, South Africa. (Tom Maslanka, Cleveland, OH) (Gunter Wurr, Cuxhaven, W. Germany)

SWEDEN
Radio Sweden, 21610 kHz. Full data scency QSL card. Without verification signer. Received in 16 days for an English report. Station address: S-105 10, Stockholm, Sweden. (Robert Landau, Baltimore, MD)

TURKEY
Voice of Turkey, 17760 kHz. Full data scency card with pennant and stickers. Without verification signer. Received in 35 days for an English report. Station address: P-K, 333, 06-443 Ankara, Turkey. (Tony Betz, Jackson, NH)

UNITED KINGDOM
BBC, 17640 kHz. No data studio/scency card. Verification signer, D.J. Cirkett, C.E. World Service. Received in 120 days for an English report. Station address: P.O. Box 76, Bush House, Strand, London WC2B 4HL. (Sam Wright, Biloxi, MS)

UNITED STATES
KNAN-106.1 MHz FM. Full data prepared letter. Illegible verification signer. Received for a reception report and return postage. Station address: 2716 North 7th Street, West Monroe, LA 71291. (Hank Holbrook, Dunkirk, MD)

KYKS-105.1 MHz FM. Hand written letter. Verification signer Dawn Christi. Morning Air Personality. Received for a reception report and return postage. Station address: P.O. Box 2209, Lufkin, TX 75901. (Hank Holbrook, Dunkirk, MD)

WZCL-105.3 MHz FM. Full data friendly letter. Verification signer Charles Rippel, C.E. Received for a reception report and return postage. Station address: 1318 Spraile Street, Portsmouth, VA 23704. (Hank Holbrook, Dunkirk, MD)

WQMR-98.3 MHz FM. Full data letter. Verification signer Roy Robertson, General Manager. Received for a reception report and return postage. Station address: The Morgan Building, Rm. 5, Mechanicsville, MD 20659. (Hank Holbrook, Dunkirk, MD)

VENEZUELA
Radio Continental, 4940 kHz. Full data station logo card and fact sheet on the city of Barinas. Without verification signer. Received in 153 days for a Spanish report and two IRCs. Station address: Avenida Marques del Puma, Barinas 5201, Estado Barinas, Venezuela. (Robert Landau, Baltimore, MD)
The Plot Thickens

I thought I solved a mystery last October when I uncovered a new 16 tone modem on 13.912 MHz which was being tested at Andrews AFB, Maryland. (I made a mistake and said it was in Florida.) Since then, another new data mode popped up on HF.

On 14.856 kHz, for the last several months, the state department was testing a new modem at the Remington, Virginia, site, that uses 40 tones. As I mentioned before, these new data systems are getting so complex it will take several years for the technology to reach the shortwave listener or ham market.

Like the 16 tone modem, the 40 tone system uses 39 QPSK (Quadrature Differentially Phase Shift Keying). The 40th tone is unmodulated and is used as a tuning signal. Please don't be intimidated. I'm not trying to scare you with these "high tech" words. I just want to keep you informed.

New data systems like this 40 tone modem are so complex it'll be years before the technology filters down to the amateur market.

An innovation, which appears to be a trend in parallel tone technology, is the implementation of a special microprocessor which is used to perform a mathematical coding system called "Convolution" or "Reed Solomon." These coding schemes will scramble the data which makes it appear to be crypto covered. But it may be possible, according to the pros, to copy these signals in the clear. The testing that was done at Remington may have been unencrypted.

The previously mentioned codings are used only for the purpose of correcting data. On board the 40 tone radio modem is a special microprocessor which recognizes the coding and makes special adjustments in the data bits. This eliminates the repetition which is used, for example, in other forms of data communications such as SITOR, FEC, or Packet Radio.

Overhead RTTY

I received several letters from readers about receiving RTTY signals from the satellites. I don't have an earth station but my own brother, who is in the home satellite business, tries to sell me one during family "get-togethers." When I asked him about hidden signals on the TV satellites, he claims he doesn't know too much but some of his fellow entrepreneurs are experts.

I met a person who sells TV satellites at the Radio Expo Hamfest which is held in September in the Chicago area (he informed me that he knows my brother). He was set up in the flea market with a small five foot dish on a patio mount (you have to point the dish by hand) and a Uniden 6000 satellite receiver which was feeding a portable color TV. The setup cost about $450.00 less the TV.

I asked him about hidden signals and he immediately pulled out a book from a card-board box. I recognized the book as the Hidden Signals on Satellite TV by Thomas P. Harrington and Bob Cooper, Jr. He looked up the appropriate satellite and aimed the dish in a split second. I believe he pointed the dish to the Westar satellite. I told him "just a minute" and I ran to my truck (which was a few hundred feet away) to get my R-7000 receiver.

He connected the R-7000 to a connector on the rear apron of the Uniden 6000 marked "70 MHz out." RTTY signals can be found by tapping off the video out-jack on some satellite receivers. I tuned the R-7000 receiver from 50 to 70 MHz and found a cluster of signals from wide band FM broadcast to time signals. I didn't find any RTTY but that was just one transponder and the antenna was set to vertical polarization. He could have selected other transponder channels and a horizontal position to get even more hidden signals. I was impressed anyway.

I think a small setup like this is very affordable. You can set the dish in the back yard and anchor it with sand bags, but you would need a way to adjust it. That would require a way to see a TV picture while you are pointing the dish. You could probably set the TV in the back window and point the dish to the "bird" for best reception. Then run inside and open a new world of satellite listening.

Other Satellites

There's a whole new world to explore in the 230 to 300 MHz range. Lately I've been hanging out there myself. Using an R-7000 and a very good antenna system, you can copy strange FSK signals. They use, in some cases, 2.5 kHz shift. It is believed that these signals are coming from the NAVSTAT satellites from the Atlantic and the Pacific areas. In the midwest you can catch these birds by simply pointing your antenna east or west. No one, as far as I know, has been able to get a printout, but I'm sure some one is working on it.

Here is a list of UHF satellites that are copyable in the midwest.

<table>
<thead>
<tr>
<th>FREQ</th>
<th>NAME</th>
<th>USE</th>
<th>COMMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>135.575</td>
<td>ATIS</td>
<td>UNK</td>
<td>Search and Rescue</td>
</tr>
<tr>
<td>137.300</td>
<td>USSR</td>
<td>UNK</td>
<td>Weather Fax</td>
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<td>USSR</td>
<td>UNK</td>
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</tr>
<tr>
<td>137.630</td>
<td>NOAA</td>
<td>UNK</td>
<td>Weather Fax</td>
</tr>
<tr>
<td>137.850</td>
<td>USSR</td>
<td>UNK</td>
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<td>AF1</td>
<td>Uplink USB</td>
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<td>AFSTCOM</td>
<td>UNK</td>
<td>Data 2.5 k FSK</td>
</tr>
<tr>
<td>244.180</td>
<td>FLTSTAT</td>
<td>AF1</td>
<td>Downlink USB</td>
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<tr>
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<td>250.550</td>
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<td>UNK</td>
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<td>Spread spectrum?</td>
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</tr>
<tr>
<td>252.040</td>
<td>UNK</td>
<td>Spread spectrum?</td>
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<tr>
<td>252.060</td>
<td>UNK</td>
<td>FSK 1200BD</td>
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<td>252.084</td>
<td>UNK</td>
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<td>252.116</td>
<td>UNK</td>
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<tr>
<td>252.138</td>
<td>UNK</td>
<td>FSK 1200BD</td>
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<td>252.160</td>
<td>UNK</td>
<td>Strong, FSK DATA</td>
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<tr>
<td>252.183</td>
<td>UNK</td>
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<td>252.205</td>
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<td>Spread spectrum?</td>
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<td>252.263</td>
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<td>UNK</td>
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<td>Strong, warbling carriers</td>
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<td>261.870</td>
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<td>SE, strong, FSK</td>
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<td>267.064</td>
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<td>Flying carrier</td>
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<td>419.577</td>
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<td>INIT?</td>
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Radio C-Span International

What if you had a radio that picked up the BBC World Service, Radio Canada, Radio Japan, Swiss Radio International, Radio Nederland, and Radio Prague with signals that never faded and were not subject to storms, solar flux, or local line noise? Suppose this amazing radio gave you programming from these stations with a high enough fidelity that music was actually listenable, that news programs were as clear as the local FM powerhouse?

"What is this?" you ask. "More miracles from the Japanese?" No, it's just the latest move from cable's brightest star: C-Span, the Cable Satellite Public Affairs Network.

Last September C-Span's new audio formats changed forever the face of American cable systems' audio subcarrier services. Until now, cable companies that offer FM audio subcarrier services to their customers usually offer a mixed package of local FM stations and premium cable audio programming such as the Jones Interchannel services or the now defunct but fondly remembered Studio Line services.

Now cable, via C-Span, makes something available to nearly 50 percent of American homes that few have ever experienced: short-wave radio.

The Game Plan
By virtue of its occupancy of two satellite transponders, C-Span has control of vast amounts of audio subcarrier space. For this current venture they have decided to use only the subcarrier frequencies on their Galaxy 3 channel 24 service. If all goes well and this international rebroadcast service is well received, it will be easy to imagine what amazing things they'll do with the additional subcarrier space available on C3, 14!

C-Span Audio 1 and 2
The channel has set up two main frequencies for this service: C-Span Audio 1 (5.22 MHz) and C-Span Audio 2 (5.40 MHz). As stated in their brochure to cable companies, "C-Span's flagship audio network offers daily live coverage of congressional hearings, speeches, and press conferences happening in the nation's capital."

In addition, Audio 1 offers an "audio link with the world" featuring "six hours of international programming each evening from foreign radio sources." Interspersed throughout the day are segments of C-Span generated music and schedule information.

BBC on the Line
C-Span Audio 2 is devoted exclusively to the retransmission of the BBC's World Service. This is accomplished now through the use of American Public Radio's (APR) retransmission of the BBCWS via FM/SCPC on W4.

According to C-Span audio network's manager Beth Glatt, a dedicated line directly from Bush House in London should be in service soon, which will improve the audio quality even more. Imagine listening to 'Meridian' on a nearly studio quality line!

Can It Get Any Better?
Amazingly, this may only be the beginning. The C-Span audio network's fact sheet states: "Future audio programming will provide historical perspective through programming of public events from the past, drawn from the National Archives and other sources." In addition, negotiations to establish other dedicated 24 hour services such as Radio Moscow may also be undertaken.

C-Span: Dish Owner Friendly
These services are automatically available to satellite TV system owners; to receive them one merely has to tune them in on the satellite receiver. The channel's policy has always been and will continue to be that it will not scramble its video or audio.

It's Up to Your Cable Company
But what about the many Monitoring Times subscribers who have cable? How can they get these services? If your cable system offers a subcarrier service and you already subscribe, tune around; you may have been overlooking these services.

If you can't find them, call your cable company and ask if they're available. If not, encourage them to do so. Get your friends to request it too. This really works! Zack Schindler, N8FNR, wrote in this column in October 1989 that he wanted to do just that. I told him to forget it but Zack would not be deterred.

Two months ago he wrote me again: "...I have convinced my cable company to pick up both C-Span audio feeds and NASA Select. We will start getting these in about three weeks and they are going to publish a NASA Select schedule in our monthly cable guide!"

Well, how about it? Is Zack just a lucky guy or are most cable companies that responsive to their patrons?

The Other Side of the Coin
I'm about ten miles from the nearest cable drop so I've no choice in the dish or cable debate. However, I called the local cable company to see how amenable they would be to carrying these services. Here, for $15.95/month one can get 17 channels but not C-SPAN I or II or any of their audio.

"How about NASA Select?" I asked.
"What? Never heard of it." After explaining what it was, the person I talked to replied, "B-o-r-i-n-g.

A quick call to the nearby Charlottesville cable system revealed a much more cosmopolitan attitude. They carried C-Span! C-Span II! No. Audio 1? No. Audio 2? No. NASA Select? Huh?

These additional audio services show an imaginative direction that is a clear departure from what we've come to expect from new cable initiatives. There's little to commend in the overall trend in cable toward more impulse Pay Per View and endless shopping channels. Yet here is C-Span quietly and admirably fulfilling a tiny portion of cable's once great promise.

Cheers to C-Span, the cable companies that carry the new services, and the customers who take the trouble to see that they get what they deserve. Let me know what your cable company plans to do with these new services. Write to me at the masthead address.

More on NASA Select
I talked with Les Gaver, executive producer for NASA Select, who told me that approximately 300 cable systems carry the channel during space missions. He also reiterated NASA's position in favor of continued access by dish owners and any cable system which wanted to retransmit the channel. It is a public service which they are proud to provide.

Mr. Gaver said that some Ku band was used but it was "nonstandard" video (encrypted via NASA's own digital video encryption software) and that the only transmissions to be found on TDRS (Tracking and Data Relay Satellite) were digital telemetry data from the shuttle to the various centers around the country.

NASA SCPC
Throughout any mission the air-to-ground audio is carried on NASA Select. However, when a change of shift briefing is aired, mission audio will not be heard. This doesn't mean there isn't air-to-ground audio; it just means they can't carry both at the same time.

NASA maintains a separate Mission Audio on SCPC via transponder 9 of F2R, which carries Mission Audio even during change of shift briefings. The best way to monitor the shuttle missions is to have your SCPC receiver tuned to mission audio while your satellite receiver is tuned to NASA Select. You won't miss a thing!
Mailbag:

"Is there any conventional way to receive Soviet and British TV?" David Sheley, Blytheville, AR

The key here, David, is "conventional." At present it is not possible for the average home dish owner in the continental U.S. to watch either. Let's take the British situation first. Up to this past summer daily feeds of the BBC "Six O'Clock News" were readily available on NTS, Inc. Until then, these feeds were switched from the NTSC (U.S. standard transmission) mode to the PAL (primarily European) mode.

These feeds appear to us as black and white with the screen rolling out of control while the audio is clear. It is still possible to watch this feed if you have a set capable of displaying the PAL format. The only such set I've heard about was one sold by Shaun Kenny on his "Green Sheet" program and that was a few years ago.

NHK used to have British and European news feeds daily in the NTSC format on its G21.1 channel. I have not seen these of late. Finally, there are British TV feeds on the Intelsat birds which anyone west of the east coast will have difficulty receiving.

As for Soviet TV, it is even less promising. Locations in Maine, Alaska, or possibly Hawaii have the best chance, using big dishes, of getting any Soviet TV via their domestic geosynchronous birds. The best chance for those of us outside those areas is to try the Molniya satellites, which because of their elliptical nongeosynchronous orbits fly directly over North America. The problem is that these birds are on the move and coverage to U.S. locations is only for six hours a day.

To successfully view the Molniya transmissions you will be required to shift your dish to an entirely different location in the sky from the Clarke Belt on which it is now trained. Be aware, though, that these transmissions also are not compatible with NTSC standards and will provide even more difficulties. In addition, downlink tuning standards are different and may require an analog TVRO receiver to tune the video carrier.

"I would appreciate your advice on the subject of splitters and DC blocks as they apply to satellite reception . . . I am eager to get started but I don't want to 'smoke' my equipment." Thomas Barrett, Ozark, AL

Good idea, Thomas. Beside, the Surgeon General has determined that smoking your gear could be hazardous to your wallet! The new Low Noise Block downconverter (LNB) is powered with DC voltage from the satellite receiver in your house. This voltage travels up to the LNB via the 75 Ohm coax on which the 950-1450 MHz TV signals travel down.

In a normal TVRO installation, this signal goes untouched into the receiver. However, if you intend to do SCPC as well, you may have to split the signal and feed the satellite receiver with one leg and the SCPC receiver with the other. This means both legs must carry 950-1450 MHz signals and that the splitter must pass those frequencies. Ordinary TV splitters pass only those frequencies within the FM-VHF-UHF bands.

Order these satellite splitters through the TVRO catalog companies listed frequently in this column. Expect to pay ten to fifteen dollars each. Use only splitters that have a DC block on one side. Make sure that the pass side routes to the LNB and that the block side routes to the SCPC receiver. You should not have to use any additional isolators.

"I am trying to locate a copy of International Satellite Television Reception Guidebook . . ." Bob Weiblen, Baltimore, MD


But how about it? Does anyone have a copy of the Stephen Birkill book that Bob is asking about? Let me know and I'll pass the info on to him.
Return to Walden Pond

Their quest to air their format presented them with many challenges. The Boston area’s radio dials were very crowded and there were no available frequencies. The FCC decided to allow new stations on clear channels once dominated by only one or two broadcasters per frequency nationwide. This action made 1120 kilohertz available for their use.

The Canadian government also wanted to allocate 1120 kHz to a new station in Sherbrooke, Ontario. To prove that their broadcasts would not interfere with Canada, Simon and Pleasants were granted a special temporary license to test the signal of the new station. Passing that test, the FCC approved their proposal, but required them to construct four transmitting towers to create a carefully controlled area where they could be heard.

Erecting four towers in Concord was not immediately welcomed by the community. After several tries, the local Board of Selectmen approved a plan. Simon and Pleasants bought an old 23 acre gravel pit that was seething with pollutants. They cleverly restored the area to a wetlands wildlife habitat. The four towers reached up 199 feet apiece.

If they had been 200 feet tall, the Federal Aviation Agency would have required them to be outfitted with distracting and ugly warning lights, and be painted in eye-catching colors. The towers were painted to blend in with the surrounding forested area, and the project became a positive example for the future.

The new home of Walden 1120 AM is equally creative. The station is built inside a large old brick building which originally served as a textile mill. Damohill Square is now the site of several businesses and a historic reminder of Concord’s history. Huge machinery still remains in the structure, just a few feet away from WADN’s beautiful new studios.

It is very unusual, in recent times, for a new AM radio station to come on the air on a frequency never before used in their locale. Walden Radio 1120 was built as a long-term investment and features brand-new equipment, from CD player to transmitter, and broadcasts in stereo. Besides the standard air studio and newsroom, WADN is building a live performance studio for concerts and a children’s show to be broadcast from the premises.

The heart of the station is its unique sound. They call it “independent folk.” The format is almost exclusively acoustical folk music, featuring artists like Karla Bonoff, Steve Goodman, Tom Rush, and Peter, Paul, and Mary. The disk jockeys are very sensitive and loving towards the sound. Co-founder Dick Pleasants has been the cornerstone of the Boston folk scene for two decades. He hosts the WADN morning show every weekday. Dick’s rapport with the world of folk music was essential to the station’s instant success, along with his mammoth record collection.

Kate Borger and Lindsay Ellison continue the music until six in the evening. Kate previously hosted several innovative shows on WNYC and WBAI in New York City, and Lindsay was a familiar voice on WGBH in Boston.

Between 6 p.m. and midnight, WADN shifts gears to an all-news format which is just as unique as their music. The Walden World Service consists of a live broadcast, via satellite, of the BBC News Hour from London, followed by the CBC’s “As It Happens” news magazine from Canada, and The Christian Science Monitor’s “Monitoradio” broadcast. This troika is repeated at 9 p.m. in its entirety.

Walden Radio’s creativity continues on weekends with a children’s hour, programs combining folk music with environmental...
innovators in radio that will assure their success in the 1990s.

Bits and Pieces

If you are within 100 miles of the tallest peak in the northeast, you can hear WHOM-FM loud and clear. They have just updated their signal to be more powerful than ever before, courtesy of the improved antenna system. They could have the tallest natural antenna tower around, too. Mount Washington is 6,288 feet tall, roughly equivalent to a 625 story building!

Although their 25 kilowatt transmitter and antenna are in New Hampshire, the WHOM studios are many miles away in Portland, Maine. News and weather reports cover four states: Vermont, New Hampshire, Maine, and Massachusetts. Listen to WHOM's easy listening sounds on 94.9 FM almost anywhere in New England!

Another famous former mayor hits the airwaves this month. After 12 years as mayor of New York City, the outspoken Ed Koch will be speaking daily on WNEW-AM. For two minutes each morning he will greet wakings New Yorkers with his new feature show "How're We Doin'?" Koch will also be airing his views as a lecturer at New York University.

New Station Grants

The bands keep filling up with new entertainment! Look for these new signals in the near future: Evergreen, CO, 96.5; Crawford, GA, 102.1; Mahomet, IL, 105.9; Fredonia, Kansas, 104.1; Hutchinson, KS, 97.1; Wiggins, MS, 97.9; Ennis, MT, 97.3; Hastings, NE, 89.1; Lexington, NE, 88.7, Norfolk, NE, 89.3; Las Vegas, NV, 1100; Frankfort, NY, 94.9; Old Forge, NY, 94.1; and Williston, SC, 94.7. Courtesy of The M Street Journal.

For Sale

A low frequency full-time AM station is now available in a great radio market in picturesque western Montana. The land and studio facilities are included in the deal.

The owners claim that it is "probably the best radio value in western Montana." Write to them at Box 30455, Billings, MT 59107.

If you're always dreaming about moving to Tahiti, this might be the next best thing. A 100 kilowatt FM station construction permit is for sale. If you buy the permit, your station would be built on the Big Island in Hawaii in beautiful Hilo. The asking price is one dollar a watt or $100,000. For more information, call 904-373-8502.
outer limits

Dr. John Santosuosso
P.O. Box 1116
Highland City, FL 33846

Who’s jamming who?

THAT CUBAN-AMERICAN RADIO WAR may be heating up again! John Demmitt writes from Pennsylvania to report he heard WHO Des Moines, Iowa, announce at 1111 UTC it was leaving the air for one minute to detect the source of interference on its frequency of 1040 kHz. The test failed, as the bubble jammer it was concerned about left the air at 1100 kHz, and in both cases Cuban Radio Taino could be heard in the background.

Some radio direction finding (RDF) work with a portable radio indicates the jammer and Radio Taino transmitters are not in the same area. Could the jammer be American and an attempt to put pressure on Cuba to withdraw its request for 1040 kHz?

Then again, the jammer might be Cuban and a reminder that Habana can stir things up on the airwaves when it wishes. John has been logging Radio Taino on 830 as well as 1040 and 1100 kHz. The station also uses 1160.

In Florida, Terry Krueger also reports receiving Radio Taino on the new frequency of 1100 kHz. Further, he indicates the audio is telco quality and thus a different transmitter site. Krueger notes the Miami Herald carried a report that Cuban TV-Rebelde is now being transmitted on all vacant channels in the Habana area. This is an apparent attempt to block reception of TV-Marti when transmissions begin.

At least test transmissions should be underway from the Florida Keys by the time you read this. We understand the balloon which will be used to help transmit the signal is already up.

This writer recently received a QSL letter from Radio Taino. It is audible in much of the United States when conditions are right. There is a good deal of English on this station, which also identifies as “Tour Radio from Havana.” Try 1160 kHz first, as that is the frequency regularly used. However, you may find that, when activated, 830, 1040, or 1100 may give better results.

Reports can be sent to Radio Taino, Apartado 3040, Habana 3, Cuba. If possible, try to report in Spanish. It appears to get better results, but English will be understood.

Scotland

Terry Krueger also informs us that Scottish pirate Weekend Music Radio has added some new frequencies. In addition to 15043, which has been heard as far west as the state of Washington, they will be on 13720 with approximately 100 watts. There may also be tests on 21850. Low power is used on 6240 (6255 alternate) and 6235 (6310 alternate).

These frequencies would present a real challenge in North America, but are not impossible. Pat Murphy writes to also suggest 15640 and 15650 kHz. The station may seek a new address, but, for now anyway, reports can be sent to 42 Arran Close, Cambridge, England. WMR is an excellent verifier, and it has a new fluorescent QSL card!

The Euro-Update

- Martin Lester in England, Ary Boender in the Netherlands, and Jack Russell of Weekend Music Radio have all written to let us know Radio Caroline has returned! That is the good news. The bad news is she is only on 558 mediumwave, with no shortwave at present. Apparently the former shortwave transmitter has been converted to mediumwave use.

- At present, power appears to be rather limited. Jack claims no matter what happens in the future, Caroline will always be back in some form, even if she has to return as a hobby pirate. For now she is still operating at sea on the Ross Revenge.

- Jack says that Ireland’s Radio Dublin may return to both mediumwave and shortwave. It could be worth checking 6910 kHz from time to time. In the meantime it continues on FM.

A few other Irish pirates also manage to hang on. Two that you might catch on shortwave are Ozone Radio (the former Westside Radio, which was widely heard in the USA a few years ago) on 6820 and Donegal’s WABC on 6320. Jack writes some former Irish pirates have now managed to obtain licenses under the country’s still relatively new law.

- Meanwhile raids continue. Martin Lester reports that an English pirate, Radio Freedom, was closed by the authorities. However, it did manage to return just three days later, thanks to new equipment. The station had been operating from a building owned by a church but that did not provide sanctuary from arrest. They received a very
severe fine of 1,500 pounds. Their equipment, valued at 5,000 pounds, was seized.

Will the "Real" K-ZAP Please Stand Up!

Chief Engineer Kent Randles of Sacramento, California's KZAP-FM, 98.5 MHz writes to let us know that his station has been using the K-ZAP call letters long before a shortwave pirate K-ZAP (WKZP, 7415 kHz) commandeered them. He says they have been around since November 8, 1968, with an album-rock format from the very start.

Kent indicates he does not get many reception reports, but if the skip is good, and you do manage to hear his station, I think he would be happy to hear from you. Of course, the same is true of pirate K-ZAP. Reader Bruce Deehrake is the proud owner of the WKZP QSL we are reproducing with this column.

Here and There

- North American pirate Voice of Tomorrow made it across the Atlantic and was monitored by Jack Russell in Scotland on 15040 at 2330 UTC. Because of its controversial programming, some consider this a clandestine.

- In Connecticut Bob Doyle logged what claimed to be the premier broadcast of Hope Radio 16 America on 7375 at 2028. The station said it might use 1620 in the future.

- Nick Grace in Massachusetts hears every pirate around these days. He also bagged Hope Radio 16. He logged WLAR on 1620 kHz with a mere ten watts of power.

- East Coast Pirate radio turned up on 7475 at 0320, while WBRI was found on 7482 at 0047. Pro-peace United World Radio was heard on 7415, while Radio Free Massachusetts was also on that same frequency. KNBS made it in on 7412.

- Nick passes along some address information. While the Hilo, Hawaii, POB is still valid, P.O. Box 452, Wellesville, NY 14895, will yield faster results when you are trying to reach the many stations which rely on the Hilo drop. The Beaver Falls, Pennsylvania, drop has been replaced by Box 628, Stanesville, WV 25444.

- Unfortunately, Nick and this writer have both had reports to the Pirate Radio Network's Kingston, New York, box returned, and we have been unable to find a new address at this time.

- Jack Russell, in Ohio, was more fortunate. He got his Radio Clandestine reports to Kingston before the box was closed, and has received no less than three QSLs from the famous R.F. Burns. He also heard Colombian clandestine Radio Patria Libre on variable frequency 6775 with a strong signal.

- Fraser Bonnett in Ohio was more fortunate. He got his Radio Clandestine reports to Kingston before the box was closed, and has received no less than three QSLs from the famous R.F. Burns. He also heard Colombian clandestine Radio Patria Libre on variable frequency 6775 with a strong signal.

- Fraser heard something unusual on a five-digit German numbers station on 7533 at 2347 UTC. The woman announcer coughed in the middle of the message! One wonders what that has done to intelligence operations around the world.

- Finally, Fraser sends along a report that the FCC raided and closed a ten-watt pirate, WKIL-FM, in Independence, Kentucky. The station had been on the air for two and one-half years, and the operator had tried to get a cable company to carry it.

- Pirate radio can bring out the "beast" in you. Both Dan McCormack in Massachusetts and Pat Murphy have logged WBST on 7488. This one has been around for a few years and likes to turn up on Friday the 13th, Halloween, and other similar suitable situations. It claims to be in Salem, Massachusetts. Reports go to Box 40554, Washington, DC 20016.

- Dan also heard CHBO on 7411 and has recent logos of Radio Clandestine, WBRI, and Weekend Music Radio.

- Up Minnesota way Alan Masyga has again monitored Free Radio One on 7415 at 0119. The station was protesting both the IRS and abortion. Free Radio One is definitely one of the more political stations around these days.

Clandestine Matters

- California reporter Mike Fern sent a very nice report on a number of clandestine logs and schedules. Here are a few items.

- Mike heard anti-Castro and anti-Sandinista radio Caiman on 9965 at 0100. La Voz del CID's Radio Camilo Cienfuegos (also anti-Castro) is heard with an even stronger signal on 9942. If you are new to clandestine listening, go after these. They are not difficult and often quite interesting, even if you know absolutely no Spanish.

- The Cambodian Khmer Rouge clandestine Voice of Democracy has reactivated according to Mike. Broadcasts originate in Cambodia. Mike has a tentative log of another Cambodian clandestine. This is Voice of the Khmer, which backs Prince Sihanouk, who once ruled that troubled country. He had what may have been a transmission from this one on 6326 from 1345 to 1400, but he notes a Vietnamese station is listed for 6322, and he was unable to get an ID.

- We will try to use more of Mike's excellent report in a future column. Thanks again, everybody. See you next month.
Beating the Blahs

January can be a let-down month. Most of the parties fade away after New Year’s Eve. There aren’t any particular long-standing holiday traditions for this month. About all you wind up doing is sitting around and waiting for those credit card bills to come rolling in and remind you how carried away you were by Christmas.

Unless, of course, you happen to like listening to low frequency aeronautical and marine beacons. Then January becomes a prime month, one that you look forward to and one that you savor all month long. I have one friend who takes one week of his vacation in January just so he can stay up till all hours chasing the elusive beacons that never seem to be around at other times.

Why January? For one thing, you never notice any thunderstorms at this time of year. That means that all of that pesky static is off playing in the southern hemisphere and letting us enjoy a little peace and quiet on our low frequencies. Next, low frequency signals seem to travel farther, or at least better, during the winter months. And the neighbors have their air conditioners turned off, eliminating one more source of disturbance.

In brief, January tends to give you a goodly number of clear, quiet nights. Just what the doctor ordered for good DXing.

Now that you know why January is a good month for low frequency beacon DXing, how do you tell whether you are cut out for this hobby? Ask yourself if you would enjoy going on a treasure hunt. There is a lot of treasure hunting in beacon DXing.

The thrill of hearing a rare beacon must rank up there with the miner finding bits of gold in the pan he’s been using to wash his diggings. A beacon from Greenland or above the Arctic Circle is like finding an old shipwreck. You kind of knew it was there but you weren’t sure you would ever find it. Treasure hunters make great DXers.

Do you like to feel satisfaction at accomplishing something? Maybe it won’t be on the six o’clock news, but you know you did it. If every time you turned on your receiver the same beacons could all be heard, there would be nothing to it. But beacon life doesn’t happen that way. Low frequency signals are very directional. If something interferes between you and the beacon transmitter, you won’t hear the beacon that time.

Even on good nights, there are differences. Thus, you have to be there when that special beacon can be heard. That is an accomplishment in itself.

So, if you like treasure hunts or satisfaction in your accomplishments or a challenge that is different each time you try it, then you are ready for prime time beacon DXing. Pull up a January night and go to work.

You’ll need a receiver that can hear signals from 194 kHz to 435 kHz (plus another little section from 512 kHz to 530 kHz). It should also have CW and/or USB modes. After that, it doesn’t seem to make that much difference. I see impressive loggings from Sony 2010s and NRD-525s. There are homebrew receivers, Kenwood 1000 and 5000, R-71As, Drake SPR-4s, and Hammarlund. As you get experience, you learn to work with the abilities of your own receiver to maximize your results.

Portables usually have a built-in antenna. You can rotate the receiver to achieve the loop benefits of the built-in. There are commercial loops and long wires. Again, you learn to work with what you have. Perhaps more than in any other aspect of radio, experience, practice, and perseverance are the keys to successful DXing.

Beacons transmit their IDs in Morse Code. Coastal stations send Morse Code (CW) via keyer. If you are in the CW mode, the sound is strongest on the carrier frequency because that is where the keying exists.

Beacons, on the other hand, send the code on sidebands, usually upper sideband (USB). The sound will be strongest at the frequency of the sideband. If you use USB mode, the sound will be best when you are on the carrier frequency. You will get a tone of about one kHz, because the sideband is 1020 Hertz above the carrier.

Many Canadian beacons have the sound 400 Hertz above the carrier. You will notice the difference between the 400 Hertz tone of the Canadians and the 1020 Hertz tone of the U.S. beacons.

Don’t be surprised if you hear some U.S. beacons apparently off frequency. A number of these beacons have both an upper and a lower sideband. If you are using USB and are on a frequency two kHz below the carrier frequency of the beacon, you will hear the Lower Sideband of the beacon. Sometimes this is helpful in catching a beacon that may have too much competition for the upper sideband to be heard easily.

I’m repeating the Morse Code table just so you will have a handy reference for January. It will appear in the column from time to time for those folks who can’t always find one handy. Beacons send the same ID repeatedly, and they send slow enough that you can write down the dits and dahs if you need to. Then look them up in the table and you have the beacon’s ID.

Let’s get in there and give it a try. I’d be interested in hearing from some of you about how you do. If you can’t identify what you’ve heard, send it along and maybe we can identify some of them.

| A  | di-dah | M -- | dah-dah | Y -- | dah-dah-dah-dah |
| B  | di-di-di-dit | N -- | dah-dit | Z -- | dah-dah-di-dit |
| C  | dah-dah-dah-dit | O -- | dah-dah-dah-dah | 1 --- | di-dah-dah-dah-dah |
| D  | dah-di-dit | P --- | di-dah-dah-dit | 2 --- | di-dah-dah-dah |
| E  | dit | Q -- | dah-dah-dah-dah | 3 --- | di-di-dah-dah-dah |
| F  | di-di-dah-dit | R -- | di-dah-dit | 4 --- | di-di-di-dah-dah |
| G  | dah-dah-dit | S -- | di-dit | 5 --- | di-dah-di-dit |
| H  | di-di-di-dit | T -- | dah | 6 --- | dah-di-di-dah |
| I  | dit | U -- | di-dah | 7 --- | dah-dah-di-dit |
| J  | dah-dah-dah-dah | V --- | di-di-dah-dah | 8 --- | dah-dah-dah-di-dit |
| K  | dah-di-dah | W -- | dah-dah | 9 --- | dah-dah-dah-dah-dit |
| L  | di-di-di-dit | X -- | dah-di-dah-dah | 0 ---- | dah-dah-dah-dah |

Joe Woodlock
P.O. Box 98
Brasstown, NC 28902

MORSE CODE TABLE

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AMT89
LEGEND

* The first four digits of an entry are the program start time in UTC.
* The time is followed by the station name, program name, and a brief summary of the program's content.
* Some listings may be followed by "See X 0000." The letter stands for a day of the week:

S = Sunday  M = Monday
T = Tuesday   W = Wednesday
H = Thursday  F = Friday
A = Saturday

The four digits stand for a time in UTC. Listeners should check back to that date and time to find out more about that particular program.

* All broadcasts are listed in chronological order, starting on Sunday at 0000 UTC and ending on Saturday at 2359 UTC.
* All days are in UTC. Remember that if you are listening in North American prime time, it is actually the next morning UTC. For example, if you are listening to a program at 7:01 pm [EST] on your Thursday night, that's equal to 0001 UTC and therefore Friday morning UTC.

We suggest that you tune in to a program a few minutes before the schedule start time, as some stations have tentative schedules which may slightly vary. We invite listeners and stations to send program information to the program manager at the address above.

Sunday
Jan 7th, 14th, 21st, 28th

0030 BBC: Composer of the Month. Profiles of great composers and selections from their works.
0036 Radio Budapest: Commentary. Interviews and in-depth analysis on the day's top news stories.
0041 Radio Budapest: 168 Hours. Repeats of the week's top news stories.
0050 BBC: Play of the Week. A long drama selection.
0115 Radio Japan: This Week. The major events of the week, and current affairs topics in Japan.
0135 Radio Budapest: Commentary. See S 0036.
0141 Radio Budapest: 168 Hours. See S 0041.
0200 HCJB: Get Set. Interviews and features from the world of sports.
0215 BBC: Feature. Programming on various subjects.
0215 HCJB: Lifelines. Music, drama, and a topical talk.
0230 BBC: The Ken Bruce Show. A mix of popular music and entertainment news.
0230 HCJB: Happiness is. Interviews, books, travel logs, and more.
0245 HCJB: Hour of Decision. Billy Graham's radio evangelical program.
0315 BBC: From Our Own Correspondent. In-depth news stories from correspondents worldwide.
0315 Radio Japan: This Week. See S 0115.
0330 BBC: Quiz. A quiz show of a topical nature (except January 7th, 14th: Quote, Unquote, a quiz show about quotes).
0330 HCJB: The King Is Coming. A religious program.
0400 HCJB: Radio Reading Room. Readings from new Christian books.
0430 BBC: A Taste of Soul. Robbie Vincent presents classic soul tracks and current music from the soul scene (except January 21st, 28th: The Story Lives On, a look at the traditions of British ballads).
0445 BBC: Personal View. A personal opinion on topical issues in British life.
0505 HCJB: Discovery. See S 0105.
0509 BBC: Twenty-Four Hours. Analysis of the main news of the day.
0515 Radio Japan: Commentary. Opinions on current news events worldwide.
0520 Radio Japan: Hello from Tokyo. See S 0520.
0540 BBC: Words of Faith. People share how their scripture gives meaning to their lives.
0600 HCJB: Get Set. See S 0200.
0615 HCJB: Lifelines. See S 0215.

Paul Burnett hosts "The Vintage Chart Show" a look back at rock music from the past, on the BBC World Service.
**Monday**

**Jan 1st, 8th, 15th, 22nd, 29th**

0010 Kol Israel: Calling All Listeners. A mailbox program.

0025 Kol Israel: DX Corner. Ben Dafren presents DX news.

0030 BBC: In Praise of God. A half-hour program of worship.

0036 HCJB: Kids' Corner. Brian Redhead presents a religious program.


0101 BBC: The Good Book. Modern perspectives on the Bible and the stories told within it.


0115 Radio Japan: Commentary. See S 0515.

0125 Radio Japan: DX Corner. See S 1525.

0130 BBC: Reading from The Good Book. Brian Redhead presents dramatic readings from The Bible.


0144 Radio Japan: Japan Music Scene. See S 0115.

0145 BBC: Sounding Brass. An exploration of the world of brass bands (except January 1st, 8th: The Art of James Galway, a look at the great flautist).

0150 Kol Israel: Calling All Listeners. See M 0110.

0155 BBC: Andy Kershaw's World Music. Exotic and innovative music from the world over.


0155 BBC: Happiness is. See S 0230.

0200 HCJB: Musica del Ecuador. Andean music.

0200 Radio Prague: News.

0205 KVOH: UPI Radio News [W-H, A]

0210 Beijing: News.

0210 WRNO: ABC News [W-H, A]

0215 Israel: The Week in Review. radioactive news.


0230 Deutsche Welle: World News.

0230 Kol Israel: News.

0230 KYV: UPI Radio News [T-A]

0230 Radio Australia: World and Australian News.

0230 Radio Canada Int'l: News [S-M]

0230 Radio Havana Cuba: InFt News [M-A]


0230 Voice of America: News.

0235 Voice of Indonesia: News.

0240 Voice of America (East Asia): News (Special English) [M]


0251 Spanish National Radio: News Summary [S]

0255 KUSW: News [T-S]

0300 WRNO: ABC News [W-H, A]

0300 BBC: News Summary.

0300 Beltize Radio One: Network News.


0300 Deutsche Welle: World News.

0300 Kol Israel: News.

0300 KYV: UPI Radio News [T-A]

0300 Radio Australia: World and Australian News.

0300 Radio Canada Int'l: News [S-M]

0300 Radio Havana Cuba: InFt News [M-A]


0300 Voice of America: News.

0305 Voice of Indonesia: News.

0315 Radio Havana Cuba: Cuban National News [M-A]
**BULLETIN BOARD**

**SAY GOODBYE TO NATURE... NOW!** The BBC has canceled, or at least placed on long hiatus, "Nature Now," its program about developments in the world of nature. The program has been replaced by a series of "Talks," which can be heard on Mondays at 0445 UTC and Fridays at 1445 UTC. Presumably "Nature Now" will be incorporated in "Science in Action," the BBC's flagship science program. "Science in Action" can be heard on Mondays at 0230 UTC and on Fridays at 1615 UTC.

**THE EIGHTIES ARE HISTORY:** The BBC is airing a very special program on the 1980s. On December 31, 1989, at 2315 UTC (45 minutes before the start of the new year in London), the BBC will air "The End of the '80s Show." This program will look back on Reagan, Thatcher, Gorbachev, yuppies, Madonna, Khomeini, Navratilova, Charles and Diana, the Challenger, Live Aid, and much more. Presuming you get MT 45 minutes ahead of schedule, tune in to this extravaganza...

**RULES FOR POSTING: "Bulletin Board" is open to your news and comments on shortwave radio programs. Send submissions to the program manager at the address on page 56.**

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**Tuesday**

**Jan 2nd, 9th, 16th, 23rd, 30th**

- 0015 Kol Israel: Scripture. See M 1115.
- 0030 BBC: Megamix. A compendium of music, sport, fashion, health, travel, news and views for young people.
- 0101 BBC: Outlook. See M 1405.
- 0110 Kol Israel: Concert Hall. Israeli classical music.
- 0115 Radio Japan: Commentary. See S 0115.
- 0120 Radio Japan: Cross Currents. See M 0120.
- 0130 BBC: Short Story. Brief tales written by BBC listeners.
- 0145 BBC: Europe's World. A magazine program reflecting life in Europe and its links with other parts of the world.

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**MONITORING TIMES**

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The central Ben Dafien presents "DX Corner" on Kol Israel's Sunday transmissions.

0120 Radio Japan: Asia Now, See T 0520.
0125 BBC: Financial News, See M 2310.
0126 Radio Japan (North America): Tokyo Pop-In, See M 0556.
0130 BBC: Against the Grain. A look at how older industries have survived in the UK.
0136 Radio Budapest: Commentary. See S 0036.
0141 Radio Budapest: Sportarama, See W 0041.
0145 BBC: Country Style. David Allan presents British country music.
0151 Radio Japan: Commentary. See S 0051.
0156 Radio Japan: Tokyo Pop-In, See M 0556.
0200 HCJB: Saludos Amigos. Ken MacHarg presents an "international friendship" program.
0210 Kol Israel: With Me In the Studio. See T 1115.
0215 BBC: Health Matters, See M 1115.
0230 BBC: The Atlantic Story. The history of Atlantic Records, the popular music label.
0230 Radio Budapest: Budapest Calling DX'ers. See M 1615.
0235 HCJB: Guidelines for Family Living. See T 0305.
0235 BBC: The World Today. See M 1645.
0235 HCJB: Rendezvous. See T 0315.
0235 Radio Japan: Commentary. See S 0315.
0235 Radio Japan: Asia Now, See T 0520.
0235 Radio Japan (Americas): Tokyo Pop-In. See M 0556.
0330 BBC: Discovery. An in-depth look at scientific research.
0356 Radio Japan: Asia Now. See T 0520.
0356 Radio Japan: Commentary. See M 2310.
0405 KUSW: News [S].
0410 BBC: Outlook. See M 1405.
0415 Radio Japan: Commentary. See M 1505.
0420 Radio Japan: Asia Now, See T 0520.
0425 Radio Finland: Northern Report [T-F].
0430 Radio Korea: News.
0430 Radio Indonesia: News [M-A].
0435 KUSW: News [S].
0450 Radio Canada Int'l: News [M-F].
0455 HCJB: News [M-A].
0455 KUSW: News [S].
0500 BBC: World News.
0505 BR, Brussels: News [M-F].
0510 Christian Science Monitor: News [M-A].
0510 Radio Serbia: News [S].
0515 Radio Canada Int'l: News [M-A].
0520 R, Moscow (World Serv): News in Brief [S-M].
0525 Radio Netherlands: News [M-A].
0530 Radio Japan: Asia Now. See T 0520.
0530 Radio Japan: Commentary. See M 2310.
0535 Christian Science Monitor: News [M-A].
0535 Voice of Free China: News and Commentary.
0535 Radio Havana Cuba: Cuban National News [M-A].
0535 Radio Hamburg: News [M-F].
0540 Radio Havana Cuba: News [M-A].
0545 J, Mexico: News [S].
0555 BBC: Radio Summary.
0600 Radio Japan: Asia Now. See T 0520.
0600 Radio Japan: Commentary. See M 2310.
0605 KUSW: News [S].
0615 BBC: Outlook. See M 1405.
0615 Radio Japan: Commentary. See M 1505.
0630 Radio Finland: Northern Report [T-F].
0630 Radio Korea: News.
0630 Radio Indonesia: News [M-A].
0645 KUSW: News [S].
0655 BR, Brussels: News [M-F].
0700 Christian Science Monitor: News [M-A].
0700 Radio Australia: World and Australian News.
0700 Radio Canada Int'l: News [M-A].
0700 Radio Netherlands: News [M-A].
0715 Radio Havana Cuba: Cuban National News [M-A].
0715 Radio Hamburg: News [M-F].
0720 Christian Science Monitor: News [M-A].
0720 Radio Brazil: News [S].
0730 Christian Science Monitor: News [M-F].
0730 Radio Havana Cuba: News [M-A].
0735 J, Mexico: News [S].
0740 BBC: World News.
0745 KUSW: News [S].
0800 Radio Finland: Northern Report [T-S].
0800 Radio Korea: News.
0800 Radio Indiana: News in Brief.
0800 Radio Netherlands: News [M-A].
0800 Voice of Indonesia: News.
0800 Christian Science Monitor: News [M-A].
0800 Radio Australia: World and Australian News.
0800 Radio Hawai'i: News in Brief [S-M].
0800 Radio Netherlands: News [M-A].
0845 KUSW: News [S].
0855 Voice of Indonesia: News in Brief.
0900 BBC: World News.
0900 BR, Brussels: News [M-F].
0900 Deutsche Welle: World News.
0900 Radio Australia: World and Australian News.
0900 Christian Science Monitor: News [M-F].
0905 Radio Moscow (World Serv): News in Brief [S-M].
0905 KUSW: News [S].
1000 BBC: News Summary.
1000 Radio Australia: World and Australian News.
1000 Swiss Radio Int'l: News.
1000 Voice of America: News.
1000 Radio Australia: World and Australian News.
1020 Radio Canada Int'l: News [S].
1020 Christian Science Monitor: News [M-A].
1020 Radio Moscow (World Serv): News in Brief[S].
1025 Radio Netherlands: News [M-A].
1035 Christian Science Monitor: News [M-A].
1055 KUSW: News [S].
1100 BBC: World News.
1100 Christian Science Monitor: News [M-A].
1100 Deutsche Welle: World News.
1100 Kol Israel: News.
1100 Radio Australia: World and Australian News.
1100 Radio Finland: Northern Report [T-F].
1100 Radio Japan: Commentary. See M 0556.

MONITORING TIMES
January 1990

THE BROADCASTS
60
1300 HCJB: Stories of Great Christians. See M 1300.
1300 BBC: Twenty-Four Hours. See S 0509.
1315 HCJB: Our Daily Bread. See M 1315.
1330 BBC: Development '89. See W 0730.
1330 HCJB: Morning in the Mountains. See M 1330.
1405 BBC: Outlook. See M 1405.
1415 Radio Japan: Commentary. See S 0515.
1430 BBC: Off the Shelf. See M 0430.
1430 HCJB: Through the Bible. See M 1430.
1430 Radio Japan: Asian Crossroads. See W 0536.
1445 BBC: Business Matters. See W 0430.
1451 Radio Japan: Commentary. See S 0515.
1456 Radio Japan: Tokyo Pop-In. See M 0556.
1500 HCJB: Joni and Friends. See M 1500.
1505 HCJB: Shalom. See M 1505.
1515 Radio Japan: Commentary. See S 0515.
1520 HCJB: Psychiatry and You. See M 1520.
1530 BBC: You Asked For It. A story-telling game (except January 3rd, 31st: Two Cheers, a satirical look back at the year or month just past).
1530 HCJB: Back to the Bible. See M 1530.
1530 Radio Japan: Asian Crossroads. See W 0536.
1530 Radio Japan: Commentary. See S 0515.
1555 Radio Japan: Tokyo Pop-In. See M 0556.
1600 HCJB: Focus on the Family. See M 1600.
1615 BBC: It's Not Only Rock 'n Roll. See T 0630.
1615 BBC: The World Today. See M 1645.
2305 BBC: Commentary. See M 2305.
2315 BBC: Good Books. See M 0315.
2315 Radio Japan: Commentary. See S 0515.
2330 BBC: Multitrack. Graham Bannerman presents new pop music records, interviews, and competitions.
2330 Radio Japan: Asian Crossroads. See W 0536.
2335 Radio Japan: Commentary. See S 0515.
2356 Radio Japan: Tokyo Pop-in. See M 0556.

Thursday

Jan 4th, 11th, 18th, 25th

0015 Kol Israel: Living Here. A look at people who have made Israel their home.

0036 Radio Budapest: Commentary. See S 0036.
0040 HCJB (North America): Our Daily Bread. See M 1315.
0101 BBC: Outlook. See M 1405.
0110 Kol Israel: Israel Mosaic. See W 1115.
0140 BBC: Book Choice. See S 0745.
0141 Radio Budapest: Feature. See M 0041.
0145 BBC: Society Today. A weekly look at the changes in Britain.
0205 Radio Japan: Commentary. See S 0051.
0256 Radio Japan: Tokyo Pop-In. See M 0556.
0210 Kol Israel: Living Here. See H 0015.
0215 BBC: Network UK. See T 0215.
0230 HCJB: Happiness Is. See S 0230.
0305 HCJB: Guidelines for Family Living. See T 0305.
0315 BBC: The World Today. See M 1645.
0315 HCJB: Rendezvous. See T 0315.
0315 Radio Japan: Commentary. See S 0515.

The Radio Japan open studio.

0115 Radio Japan: Commentary. See S 0515.
0125 BBC: Financial News. See M 2310.
0130 BBC: Waveguide. See S 0750.
0136 Radio Budapest: Commentary. See S 0036.
0136 Radio Japan: Asian Crossroads. See W 0536.
0145 Radio Japan: Information. See S 0745.
0155 Radio Japan: Business Matters. See W 0430.
0200 Radio Japan: Business Matters. See M 1300.
0205 Radio Japan: Business Matters. See W 0430.
0210 Radio Japan: Business Matters. See M 1300.
0215 Radio Japan: Business Matters. See W 0430.
0225 Radio Japan: Business Matters. See W 0430.
0230 Radio Japan: Business Matters. See M 1300.
0235 Radio Japan: Business Matters. See W 0430.
0240 Radio Japan: Business Matters. See M 1300.
0245 Radio Japan: Business Matters. See W 0430.
0250 Radio Japan: Business Matters. See M 1300.
0255 Radio Japan: Business Matters. See W 0430.
0300 Radio Japan: Business Matters. See M 1300.
0305 Radio Japan: Business Matters. See W 0430.
0310 Radio Japan: Business Matters. See M 1300.
0315 Radio Japan: Business Matters. See W 0430.
0320 Radio Japan: Business Matters. See M 1300.
0325 Radio Japan: Business Matters. See W 0430.
0330 Radio Japan: Business Matters. See M 1300.
0335 Radio Japan: Business Matters. See W 0430.
0345 Radio Japan: Business Matters. See W 0430.
0355 Radio Japan: Business Matters. See W 0430.
0400 Radio Japan: Business Matters. See M 1300.
0405 Radio Japan: Business Matters. See W 0430.
The control studio at HCJB's transmitter site in Pifo, Ecuador.


news guide cont'd from p.61

1430 Christian Science Monitor: News [M-F]
1430 Radio Moscow (World Serv): News in Brief [S]
1430 Radio Netherlands: News [M-A]
1430 Radio Polonia: News
1445 Radio Berlin Int'l: News
1500 BBC: Newsnight
1500 Belize Radio One: News [M-A]
1500 Christian Science Monitor: News
1500 Deutsche Welle: World News
1500 Radio Australia: World and Australian News
1500 Radio Beijing: News
1500 Radio China: News
1500 Radio Moscow (World Service): News
1500 Radio RSA: News
1500 Voice of America: News
1500 WHRL: News [M-A]
1510 Radio Beijing: News About China
1525 HCJB: News [M-F]
1526 Radio Veritas Asia: World News [M-A]
1530 BRT: Brussels: News [M-S]
1530 Christian Science Monitor: News [M-F]
1530 Deutsche Welle: African News [M-F]
1530 Radio Moscow (World Service): News in Brief
1530 Radio Tirana, Albania: News
1530 Swiss Radio Intl': News
1545 Radio Canada Intl': News
1552 Radio RSA: News in Brief
1600 BBC: World News
1600 Deutsche Welle: World News
1600 Radio Australia: International Report
1600 Radio France International: News
1600 Radio Korea: News
1600 Radio Moscow (World Service): News
1600 Radio Mongolia: News
1600 Radio Portugal: News [M-F]
1600 Radio Romania: News
1600 Voice of America: News
1600 BBC: News about Britain
1625 HCJB: News [M-F]
1630 Christian Science Monitor: News [M-F]
1630 R. Moscow (World Serv): News in Brief [S-M]
1630 Radio Netherlands: News [M-A]
1630 Radio Peace and Progress: News
1630 Radio Polonia: News
1630 Voice of America (except Africa): News (Special English)
1645 Radio Berlin Int'l: News
1645 Radio Berlin Int'l: News
1655 KUSW: News [M-F]
1700 BBC: World News [S-F]: News Summary [A]
1700 Belize Radio One: News [M-F]
1700 Christian Science Monitor: News
1700 Radio Australia: World and Australian News
1700 Radio Japan: News
1700 Radio Moscow (World Service): News
1700 Voice of America: News
1715 Radio Canada Int'l: News
1730 BRT: Brussels: News
1730 Christian Science Monitor: News [M-F]
1730 Radio Moscow (World Serv): News in Brief [S]
1730 RAE, Buenos Aires: News
1745 Swiss Radio Intl': News
1755 KUSW: News [M-A]
1800 BBC: Newsdesk
1800 Belize Radio One: Headline News [M-A]
1800 Christian Science Monitor: News
1800 Kol Israel: News
1800 Radio Australia: International Report
1800 Radio Brasilia: News
1800 Radio Canada Int'l: News
1800 Radio Kiev: News

Friday

Jan 5th, 12th, 19th, 26th
0030 BBC: Best on Record. The best recordings of classical music works.
0040 Radio Budapest: Commentary. See S 0006.
0045 HCJB (North America): Gateway to Joy. See T 0045.
0101 BBC: Outlook. See M 1405.
0110 Kol Israel: Studio Three. See H 1115.
0115 Radio Japan: Commentary. See S 0515.
0125 BBC: Financial News. See M 2310.
0130 BBC: Folk in Britain/Jazz Scene UK. See H 1345.
0136 Radio Budapest: Commentary. See S 0006.
0151 Radio Japan: Commentary. See S 0515.
0156 Radio Japan: Tokyo Pop-In. See M 0556.
0200 HCJB: Musical Mailbag. Listener letters with music requests.
0210 Kol Israel: Ulpan of the Air. See F 0010.
0215 BBC: Seven Seas. A weekly program about ships in the sea.
0230 BBC: Drama (except January 17th, 26th: So Much Blood). See H 1130.
0230 HCJB: Happiness Is. See S 0230.
0230 Radio Budapest: Budapest Calling DX'ers. See M 1615.
<table>
<thead>
<tr>
<th>Time</th>
<th>Station/Program</th>
</tr>
</thead>
<tbody>
<tr>
<td>0100</td>
<td>Radio Bible Int'L: News</td>
</tr>
<tr>
<td>0105</td>
<td>Radio Tanzania: News</td>
</tr>
<tr>
<td>0110</td>
<td>BBC: Music in the Night</td>
</tr>
<tr>
<td>0115</td>
<td>BBC: The Learning World</td>
</tr>
<tr>
<td>0120</td>
<td>Kol Israel: Letter from Jerusalem. News commentaries</td>
</tr>
<tr>
<td>0125</td>
<td>Radio Japan: Commentary</td>
</tr>
<tr>
<td>0130</td>
<td>Kol Israel: Thank Goodness It's Friday, a program conveying the atmosphere of the Jewish Sabbath, on Kol Israel's Friday broadcasts.</td>
</tr>
<tr>
<td>0135</td>
<td>BBC: People and Politics. Background to the British political scene.</td>
</tr>
<tr>
<td>0140</td>
<td>Kol Israel: Thank Goodness It's Friday. See F 1120</td>
</tr>
<tr>
<td>0145</td>
<td>BBC: New Ideas. See T 0445</td>
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<tr>
<td>0150</td>
<td>Radio Japan: Commentary</td>
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<tr>
<td>0155</td>
<td>Radio Japan: Pop-In.</td>
</tr>
<tr>
<td>0200</td>
<td>HCBJ: Sounds of Joy, Contemporary Christian music</td>
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<tr>
<td>0205</td>
<td>BBC: British Press Review. See S 0209</td>
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<tr>
<td>0210</td>
<td>BBC: Network U.K. See T 0215</td>
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<tr>
<td>0215</td>
<td>Radio: News</td>
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<tr>
<td>0555</td>
<td>Radio: News</td>
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</tbody>
</table>
MOVING?

Let us know four to six weeks before you move and we will make sure your MT arrives on schedule. Just remove the mailing label and affix below. Then complete your new address (or any other corrections) in the space provided.

My new address:

Monitoring
Times
P.O. Box 98
Brassnc
NC 28902

AFFIX OLD LABEL HERE

0230 Radio Budapest: Budapest Calling DX'ers.
0305 HCJB: Guidelines for Family Living. See T 0035.
0315 BBC: The World Today. See M 1645.
0315 HCJB: Rendezvous. See T 0315.
0315 Radio Japan: Commentary. See S 0515.
0320 Radio Japan: Japan Panorama. See F 0520.
0326 Radio Japan (Americas): Tokyo Pop-In. See M 0930.
0330 BBC: The Vintage Chart Show. Paul Burnett presents top ten hits from the music charts of yesteryear.
0330 HCJB: Unshackled. See S 1600.
0351 Radio Japan: Commentary. See S 0515.
0356 Radio Japan: Tokyo Pop-In. See M 0556.
0430 BBC: Here's Humphry! All that jazz with Humphrey Lyttelton.
0445 BBC: Personal View. See A 0030.
0505 HCJB: Passport. See M 0135.
0509 BBC: Twenty-Four Hours. See S 0509.
0515 Radio Japan: This Week. See S 0115.
0540 BBC: Words of Faith. See S 0540.
0545 BBC: The World Today. See M 1645.
0630 KUSW: News [M-F].
0645 KUSW: News [M-F].
0700 BBC: Twenty-Four Hours. See S 0509.
0715 Radio Japan: This Week. See S 0115.
0730 BBC: From the Weeklies. See F 2315.
0745 BBC: Network UK. See T 0215.
1115 BBC: Just William. See A 0130.
1115 Radio Japan: This Week. See S 0115.
1130 BBC: Meridian. See W 0630.
1130 HCJB: Sounds of Joy. See A 0200.
1130 Radio Budapest: Budapest Calling DX'ers. See M 1615.
1200 HCJB: Radio Reading Room. See S 0400.
1215 BBC: Multitrack 3. See F 2330.
1230 HCJB: Happiness Is. See S 0220.
1245 BBC: Sports Roundup. See S 1330.
1300 HCJB: Adventures in Odyssey. Lively children's dramas from the 'Focus on the Family' team.
1300 BBC: Twenty-Four Hours. See S 0509.
1330 BBC: Network UK. See T 0215.
1330 HCJB: Visit with Mrs. G. Mrs. G. presents Bible stories for children.
1345 BBC: Short Story. See T 0130.
1345 HCJB: Adventure Club. A weekly adventure program on Christianity for children.
1400 HCJB: Children's Bible Hour. Songs and stories for children.
1410 BBC: The Ken Bruce Show. See S 0230.
1415 Radio Japan: This Week. See S 0115.
1430 BBC: Sportsworld. Saturday sports, including a preview of English and Scottish soccer matches.
1430 HCJB: We Kids. A fast-moving program for children.
1500 HCJB: Critter County. Christian Wytzen and her friendly critters present a children's program. (Yes, folks, it's no joke.)
1515 BBC: Sportsworld. Saturday sports, including direct reports from more than a dozen key soccer contests.
1515 Radio Japan: This Week. See S 0115.
1600 HCJB: Radio Reading Room. See S 0400.
1615 BBC: Sportsworld. Commentary on an English or Scottish soccer match.
2130 BBC: Book Choice. See S 0745.
2315 BBC: A Jolly Good Show. See T 1515.
2315 Radio Japan: This Week. See S 0115.

SUGGESTIONS? SOMETHING MISSING?

Let us know your corrections, additions, and suggestions of what you'd like to see to Program Manager Kannon Shanmugam at 4412 Turnberry Circle, Lawrence, Kansas 66047.

news guide cont'd from p.63
2100 Christian Science Monitor: News
2100 Deutsche Welle: World News
2100 KVOH: UP! Radio News
2100 Radio Australia: World and Australian News
2100 Radio Finland: Northern Report [M-F]
2100 Radio Japan: News
2100 Radio Moscow (World Service): News
2100 Radio New Zealand Intl: News
2100 Radio Slovak: News
2100 Radio Yugoslav: News
2100 Spanish National Radio: News
2100 Swiss Radio Intl: News
2100 Voice of America: News
2130 Christian Science Monitor: News [M-F]
2130 KVOH: UP! Headline News
2130 Radio Budapest: News
2130 Radio Canada Intl: News
2130 Radio Moscow (World Service): News in Brief
2130 Swiss Radio Intl: News
2150 KUSW: News [M-F]
2200 BBC: NewsHour
2200 Christian Science Monitor: News
2200 KUSW: News [M-F]
2230 KVOH: UP! Radio News
2240 Radio Australia: International Report
2250 Radio Berlin Int'l: News
2250 Radio Canada Intl (Asia): News
2250 Radio Canada Intl (Europe): News
2250 Radio Era: Asia: News
2250 Radio Havana Cuba: Intl News [M-A]
2250 Radio Moscow (World Service): News
2250 Radio Nepal: News
2250 Radio New Zealand: News
2250 Voice of America: News
2250 Voice of China: News and Commentary
2250 Christian Science Monitor: News [M-F]
2250 KUSW: UP! Headline News
2250 Radio Havana Cuba: Cuban National News [M-A]
2250 Radio Moscow (World Serv): News in Brief [A-S]
2250 Radio Polonia: News
2255 Voice of America: News (Special English)
2255 Radio Berlin Int'l: News
2255 Voice of America: News [S]
2300 BBC: World News [A-S]: Five-Minute News
2300 Beltize Radio One: News [M-F]
2300 Christian Science Monitor: News
2300 KVOH: UP! Radio News
2300 Radio Australia: World and Australian News
2300 Radio Canada Intl: News
2300 Radio for Peace Intl: News [F]
2300 Radio Japan: News
2300 Radio Moscow: News
2300 Voice of America: News
2300 Voice of Turkey: News
2305 Radio Polonia: News
2330 BRT, Brussels: News
2330 Christian Science Monitor: News [M-F]
2330 KVOH: UP! Headline News
2330 Radio for Peace Intl: News [M]
2330 Radio Kiev: News
2330 Radio Korea: News
2330 Radio Moscow (World Serv): News in Brief [A-S]
2330 Radio Tirana, Albania: News
2335 Voice of Greece: News [S]
2355 KUSW: News [M-A]
2355 WRNO: ABC News [F]
MT Monitoring Team

Greg Jordan, Frequency Manager
1855-1 Franciscoan Terrace
Winston-Salem, NC 27127

Larry Miller
Wagontown, Pennsylvania

Richard A. Keen
Golden, Colorado

0000 UTC [7:00 PM EST/4:00 PM PST]

<table>
<thead>
<tr>
<th>Code</th>
<th>Station</th>
<th>Frequency</th>
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</thead>
<tbody>
<tr>
<td>0000-0025</td>
<td>Radio Finland, Helsinki</td>
<td>9645 11755</td>
</tr>
<tr>
<td>0000-0030</td>
<td>M Radio Norway International, Oslo</td>
<td>15165</td>
</tr>
<tr>
<td>0000-0030</td>
<td>BBC World Service, London, England</td>
<td>5965 5975 6005 6175</td>
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<td></td>
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<td>6195 7145 7325 9590</td>
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<td>9590 9915 11750 11945</td>
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<td>11955 15260 15590 17875</td>
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<td>9930 9435 11800 11900</td>
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<tr>
<td>0000-0030</td>
<td>Kol Israel, Jerusalem</td>
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<tr>
<td>0000-0030</td>
<td>Radio Moscow N. American Service</td>
<td>6000 6045 7115 7150</td>
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<td>9865 9720 12050 15425</td>
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<td></td>
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<td>17605 17700 17720 21470</td>
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<tr>
<td>0000-0050</td>
<td>Radio Pyongyang, North Korea</td>
<td>15115 15190</td>
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<td>0000-0055</td>
<td>Radio Beijing, China</td>
<td>9665 9770 11715</td>
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<td>Adventist World Radio-Asia, Guam</td>
<td>15125 15225</td>
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<td>All India Radio, New Delhi</td>
<td>6055 7215 9535 9910</td>
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<td>CBC Northern Quebec Service, Can</td>
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<td>CBN, St. John's, Newfoundland, Can</td>
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<td>0000-0100</td>
<td>CBU, Vancouver, British Columbia</td>
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<td>CHNS, Halifax, Nova Scotia, Canada</td>
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<td>0000-0100</td>
<td>Christian Science World Soc, Boston</td>
<td>7400 9850 13760</td>
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<td>0000-0100</td>
<td>CKWX, Vancouver, British Columbia</td>
<td>6080</td>
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<td>CFRB, Toronto, Ontario, Canada</td>
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<td>FEBQ Radio Int'l, Philippines</td>
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<td>KUSW, Salt Lake City, Utah</td>
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<td>KVOH, Rancho Sirit, California</td>
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<td>Radio Australia, Melbourne</td>
<td>15140 15160 15240 15320</td>
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<td>0000-0100</td>
<td>Radio Beijing, Beijing, China</td>
<td>15395 17750 17795</td>
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<td>Radio Canada International, Montreal</td>
<td>5960 9755</td>
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<tr>
<td>0010-0100</td>
<td>Voice of America World Service</td>
<td>11490</td>
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<tr>
<td>0010-0100</td>
<td>WHRD, Nantes, France</td>
<td>15200 15420</td>
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<tr>
<td>0010-0100</td>
<td>WGBH, Boston, Massachusetts</td>
<td>9685 9720 12050 15170</td>
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<td>0010-0100</td>
<td>WJTM, Detroit, Michigan</td>
<td>9685 9720 12050 15170</td>
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<td>KCIR, Los Angeles, California</td>
<td>9685 9720 12050 15170</td>
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<td>KWIN, Knoxville, Tennessee</td>
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<td>0010-0100</td>
<td>WRAL, Raleigh, North Carolina</td>
<td>9685 9720 12050 15170</td>
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<tr>
<td>0010-0100</td>
<td>WSM, Nashville, Tennessee</td>
<td>9685 9720 12050 15170</td>
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<td>WSB, Atlanta, Georgia</td>
<td>9685 9720 12050 15170</td>
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</table>

LEGEND

- The first four digits of an entry are the broadcast start time in UTC.
- The second four digits represent the end time.
- In the space between the end time and the station name is the broadcast schedule.
- The last entry on a line is the frequency. Several codes may be found after a frequency as follows:
  - SSB indicates Single Sideband transmission.
  - v after a frequency indicates that it varies.
  - Notations of USB and LSB (upper and lower sideband transmissions) usually refer only to the individual frequency after which they appear.
  - [ML] after a frequency indicates a multi-languages transmission containing English language programs. All other frequencies may be assumed to be non-English language programs directed to various parts of the world.
  - Listings followed by an asterisk (*) are for English lessons and do not contain regularly scheduled programming.

We suggest that you begin with the lower frequencies that a station is broadcasting on and work your way up the dial. Remember that there is no guarantee that a station will be audible on any given day. Reception conditions can change rapidly, though, and if it is not audible one night, it may well be on another.

HOW TO USE THE PROPAGATION CHARTS

Propagation charts can be an invaluable aid to the DXer in determining which frequencies are likely to be open at a given time. To use the propagation charts, choose those for your location (they are divided into east coast, midwest and west coast of North America). Then look for the one most closely describing the geographic location of the station you want to hear.

Once you’ve located the correct chart, look along the horizontal axis of the graph for the time that you are listening. The top line of the graph shows the Maximum Useable Frequency [MUF] and the lower line the Lowest Useable Frequency [LUF] as indicated on the vertical axis of the graph.

While there are exceptions to every rule (especially those regarding shortwave listening), you should find the charts helpful in determining the best times to listen for particular regions of the world. Good luck!
### Frequency Section

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Time</th>
<th>Station and Details</th>
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<td>Kol Israel, Jerusalem 9930</td>
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<td>0100-0125</td>
<td>0100</td>
<td>Radio Netherlands Intl., Hilversum 6020</td>
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<td>0100</td>
<td>CBC Northern Quebec Service, Can 9625 (ML)</td>
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### Monitoring Times

- **0100-0200**: Radio Moscow World Service, USSR 7135
- **0100-0200**: Radio New Zealand 15485
- **0100-0200**: Radio Tonga, Kingdom of Tonga 5025
- **0100-0200**: Voice of America Americas Service 5995
- **0100-0200**: Voice of America-Caribbean Service 6130
- **0100-0200**: Voice of America-East Asia Service 7115
- **0100-0200**: Voice of Indonesia, Jakarta 11744
- **0100-0200**: Voice of Yugoslavia, Belgrade 9395
- **0100-0200**: Voice of Greece, Athens 9435
- **0100-0200**: Voice of Austria International, Vienna 9870
- **0100-0200**: Radio Budapest, Hungary 6110
- **0100-0200**: Radio Moscow N. American Service 6000
- **0100-0200**: Voice of Peace Intl., Costa Rica 7375
- **0100-0200**: Voice of Veritas-Asia, Philippines 15220
- **0100-0200**: Voice of the Democratic Alliance of Burma (clandestine: Thai/Burma border) 7135 (ML)
- **0145-0200**: BBC Alternative Programming, London 5965

---

**East Coast To Western Europe**

- **MHz. 50.00**
- **LUF**
- **MUF**

**East Coast To Eastern Europe**

- **MHz. 50.00**
- **LUF**
- **MUF**

**East Coast To Arctic Europe**

- **MHz. 50.00**
- **LUF**
- **MUF**

---

**January 1990**

**Monitoring Times**

---

**0200 UTC [9:00 PM EST/6:00 PM PST]**

- **0200-0215**: Vatican Radio, Vatican City 7125
- **0200-0220**: Voice of Veritas-Asia, Philippines 15220
- **0200-0225**: Kol Israel, Jerusalem 9435
- **0200-0230**: BBC Alternative Programming, London 9580
- **0200-0235**: RAI, Rome, Italy 9575
- **0200-0240**: Kol Israel, Jerusalem 9435
- **0200-0245**: Radio Prague, Czechoslovakia 5930
- **0200-0255**: Voice of America Americas Service 5995
- **0200-0300**: Voice of Indonisia, Jakarta 11744
- **0200-0305**: Voice of Yugoslavia, Belgrade 9395
- **0200-0310**: Voice of Greece, Athens 9435
- **0200-0315**: Voice of Austria International, Vienna 9870
- **0200-0320**: Radio Budapest, Hungary 6110
- **0200-0325**: Radio Moscow N. American Service 6000
- **0200-0330**: Voice of Peace Intl., Costa Rica 7375
- **0200-0335**: Voice of Veritas-Asia, Philippines 15220
- **0200-0340**: Voice of the Democratic Alliance of Burma (clandestine: Thai/Burma border) 7135 (ML)
- **0200-0345**: BBC Alternative Programming, London 5965
- **0200-0355**: Voice of Indonesia, Jakarta 11744
- **0200-0400**: Voice of Yugoslavia, Belgrade 9395
- **0200-0405**: Voice of Greece, Athens 9435
- **0200-0410**: Voice of Austria International, Vienna 9870
- **0200-0415**: Radio Budapest, Hungary 6110
- **0200-0420**: Radio Moscow N. American Service 6000
- **0200-0425**: Voice of Peace Intl., Costa Rica 7375
- **0200-0430**: Voice of Veritas-Asia, Philippines 15220
- **0200-0435**: Voice of the Democratic Alliance of Burma (clandestine: Thai/Burma border) 7135 (ML)
- **0200-0440**: BBC Alternative Programming, London 5965
- **0200-0500**: Voice of Indonesia, Jakarta 11744
- **0200-0505**: Voice of Yugoslavia, Belgrade 9395
- **0200-0510**: Voice of Greece, Athens 9435
- **0200-0515**: Voice of Austria International, Vienna 9870
- **0200-0520**: Radio Budapest, Hungary 6110
- **0200-0525**: Radio Moscow N. American Service 6000
- **0200-0530**: Voice of Peace Intl., Costa Rica 7375
- **0200-0535**: Voice of Veritas-Asia, Philippines 15220
- **0200-0540**: Voice of the Democratic Alliance of Burma (clandestine: Thai/Burma border) 7135 (ML)
- **0200-0545**: BBC Alternative Programming, London 5965
0200-0230 M-F FEBC Radio Intl, Philippines 15480
0200-0230 Swiss Radio International, Berne 6005 6135 9725 9885
0200-0230 Voice of America-Americas Service 5995 9775 9815 11580
0200-0230 Radio Berlin Intl, East Germany 6080 11890 13690
0200-0230 Deutsche Welle, Koln, West Germany 6035 7285 9690 11945
0200-0230 Radio Bras, Brasilia, Brasil 11745
0200-0245 Deutsche Welle, Koln, West Germany 6035 7285 9690 11945
0200-0250 Radio Bras, Brasilia, Brasil 11745
0200-0300 Voice of America- Americas Service 5995 9775 9815 11580
0200-0300 CBC Northern Quebec Service, Can 9625
0200-0300 CBN, St. John's, Newfoundland, Can 6160
0200-0300 CBU, Vancouver, British Colombia 6160
0200-0300 CFCF, Montreal, Quebec, Canada 6005
0200-0300 CFCN, Calgary, Alberta, Canada 6030
0200-0300 CHNS, Halifax, Nova Scotia, Canada 6130
0200-0300 Christian Science World Svc, Boston 9455 9850 13760
0200-0300 CKWX, Vancouver, British Colombia 6080
0200-0300 CFRB, Toronto, Ontario, Canada 6070
0200-0300 HCJB, Quito, Ecuador 9745 11775 15155
0200-0300 Radio Australia, Melbourne 9455 9850 13760
0200-0300 Radio Canada International, Montreal 9535 11845 11940 13720
0200-0300 Radio Havana Cuba 9710 11820
0200-0300 Radio Luxembourg, Junglinster 6005
0200-0300 Radio Moscow N. American Service 6005 6045 7115 7150
0200-0300 Radio Moscow World Service, USSR 7135 7370 9780 12045
0200-0300 Radio New Zealand, Wellington 6010 9580 9615 11730
0200-0300 Radio RSA, Johannesburg, S. Africa 6010 9580 9615 11730
0200-0300 Radio Tonga, Kingdom of Tonga 5925
0200-0300 RAE, Buenos Aires, Argentina 9560 11710
0200-0300 Voice of America-South Asia Service 7115 7205 9740 11705

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East Coast To
Middle East

East Coast To
West Africa

East Coast To
Central Africa

MONITORING TIMES
January 1990
### Frequency Table

<table>
<thead>
<tr>
<th>Time</th>
<th>Station Name</th>
<th>Frequency (MHz)</th>
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<td>Radio Beijing, China</td>
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<td>CFCC, Montreal, Quebec, Canada</td>
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<td>CFEN, Calgary, Alberta, Canada</td>
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<td>KUSW, Salt Lake City, Utah</td>
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<td>Radio Australia, Melbourne</td>
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<td>Voice of Hope via KFBS, Guam</td>
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<td>Voice of Turkey, Ankara, Turkey</td>
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### Frequency Range

- **0315-0435:** Radio France International, Paris
- **0330-0400:** BBC Alternative Programming, London
- **0330-0400:** BBC World Service, London, England
- **0330-0400:** Radio Moscow
- **0330-0400:** Radio Bucharest, Romania
- **0330-0400:** Radio Berlin Intl, East Germany
- **0330-0400:** Radio Canada International, Montreal
- **0330-0400:** Radio Nederland Int'l, Hilversum
- **0330-0400:** Radio Tirana, Albania
- **0330-0400:** United Arab Emirates Radio, Dubai
- **0330-0400:** All India Radio, New Delhi
- **0330-0350:** M-A Voice of Greece, Athens
- **0350-0400:** RAI, Rome, Italy
- **0352-0357v:** Radio Yerevan, Armenian SSR

### Monitoring Times

- **MONITORING TIMES**
- **January 1990**

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**East Coast To South East Asia**

![East Coast To South East Asia Diagram]

**East Coast To Indian Ocean**

![East Coast To Indian Ocean Diagram]

**East Coast To Indonesia**

![East Coast To Indonesia Diagram]
**FREQUENCY SECTION**

| 0430-0500 | Radio Moscow N. American Service | 15245 15280 15310 21715 |
| 0430-0500 | Radio for Peace, Costa Rica       | 7375 13660 21565 25945 |
| 0430-0500 | Radio Tirana, Albania            | 9480 11835 |
| 0430-0500 | S, M, Trans World Radio, Bonaire | 9535 11930 |
| 0430-0500 | Voice of America-Africa Service  | 6035 7280 9525 9575 |
| 0445-0500 | Radio Berlin Intl, East Germany   | 11785 15125 |
| 0455-0500 | Voice of Nigeria, Lagos          | 7255 |

**0500 UTC [12:00 AM EST/9:00 PM PST]**

| 0500-0505 | Radio Orange, South Africa       | 3215 |
| 0500-0515 | Kol Israel, Jerusalem            | 7480 9435 11598 11605 |
| 0500-0515 | Vatican Radio, Vatican City       | 11655 15485 17630 17665 |
| 0500-0520 | Radio 5, Johannesburg, South Africa | 15190 17730 |
| 0500-0530 | Radio Berlin Intl, East Germany   | 11785 15125 |
| 0500-0600 | Radio Jordan, Amman              | 13655 |
| 0500-0600 | Radio Moscow N. American Service | 7230 9505 11790 17770 |
| 0500-0600 | S, M, Trans World Radio, Bonaire | 9535 11930 |
| 0500-0630 | Voice of America-Middle East Service | 5965 6060 6140 7170 |
| 0500-0645 | Deutsche Welle, Koln, West Germany | 11225 15205 |
| 0500-0650 | Radio Beijing, China             | 5960 6120 6130 9635 |
| 0500-0650 | Voice of Nigeria, Lagos          | 9700 |
| 0500-0655 | Radio Beijing, China             | 11840 |
| 0500-0700 | CBU, Vancouver, British Colombia | 6160 |
| 0500-0700 | CFCF, Montreal, Quebec, Canada   | 6005 |
| 0500-0700 | CFCH, Calgary, Alberta, Canada   | 6030 |
| 0500-0700 | CHNS, Halifax, Nova Scotia, Canada | 6130 |
| 0500-0700 | Christian Science World Svc, Boston | 9455 9840 13760 |
| 0500-0700 | CKWX, Vancouver, British Colombia | 6080 |
| 0500-0700 | CFRB, Toronto, Ontario, Canada   | 6095 |
| 0500-0700 | HCJB, Quito, Ecuador             | 6230 9745 11775 |
| 0500-0700 | KUSW, Salt Lake City, Utah       | 6175 |
| 0500-0700 | Radio Australia, Melbourne        | 11910 15160 15240 15395 |
| 0600-0600 | Radio Beijing, China             | 11840 |
| 0600-0600 | Radio Havana Cuba                | 7230 9505 11760 11820 |
| 0600-0600 | Radio Japan, Tokyo               | 11785 17810 17825 17890 |
| 0600-0600 | Radio Moscow World Service, USSR  | 7130 7310 7315 7310 |
| 0600-0600 | Voice of America-Middle East Service | 11870 17810 17825 17890 |
| 0600-0600 | Vatican Radio, Vatican City      | 7390 9765 9795 11765 |
| 0600-0600 | Voice of America-Africa Service  | 11785 11800 11995 12055 |
| 0600-0600 | Voice of America-Africa Service  | 13715 15140 15280 15295 |
| 0600-0600 | Voice of America-Middle East Service | 15320 15420 15455 15480 |
| 0600-0600 | Voice of Hope via KFBS, Guam     | 15225 |
| 0600-0600 | Voice of Nigeria, Lagos          | 7255 |
| 0600-0600 | WHR, Noblesville, Indiana        | 7315 9495 |
| 0600-0600 | WRNO Worldwide, Louisiana        | 6185 |
| 0600-0600 | WYFR, Oakland, California        | 5985 11560 15566 |
| 0600-0600 | Radio Orange, South Africa       | 7285 |
| 0600-0600 | Radio 5, Johannesburg, South Africa | 8200 8220 8230 |
| 0600-0600 | BBC English by Radio, London     | 8250 8650 9170 9750 |
| 0600-0600 | Radio Austria International, Vienna | 6015 6155 13730 15410 |
| 0600-0600 | Radio Bucharest, Romania         | 21490 |
| 0600-0600 | Radio Moscow N. American Service | 7175 7185 7230 9505 |
| 0600-0600 | Voice of Malaysia, Kuala Lumpur  | 6175 9750 15295 |

**0600 UTC [1:00 AM EST/10:00 PM PST]**

| 0600-0615 | Vatican Radio, Vatican City       | 6185 9645 |

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**MONITORING TIMES**

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**January 1990**
<table>
<thead>
<tr>
<th>Time</th>
<th>Frequency</th>
<th>Station Description</th>
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<td>0615-0630</td>
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**Monitoring Times**

January 1990

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**East Coast to South America**

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**East Coast to Central America/Caribbean**

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**East Coast to West Coast**

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**1000 UTC [5:00 AM EST/2:00 AM PST]**

| 1000-1015 | KTWR, Agana, Guam | 11605 |
| 1000-1015 | Radio Budapest, Hungary | 15160 15220 |
| 1000-1025 | M-FRT, Brussels, Belgium | 21810 26050 |
| 1000-1030 | Radio Afghanistan, Kabul | 17855 21600 |
| 1000-1030 | Radio Beijing, China | 11775 15440 17710 |
| 1000-1030 | Swiss Radio Internationat, Berne | 9560 13685 17670 21695 |
| 1000-1045 | Radio Berlin Intl, East Germany | 11890 |
| 1000-1100 | ABC, Alice Springs, Australia | 2310 (ML) |
| 1000-1100 | ABC, Katherine, Australia | 2485 |
| 1000-1100 | ABC, Perth, Australia | 9610 |
| 1000-1100 | ABC, Tennant Creek, Australia | 2325 (ML) |
| 1000-1100 | Adventist World Radio-Asia, Guam | 13720 |
| 1000-1100 | All India Radio, New Delhi | 11860 11915 15050 15335 |
| 1000-1100 | CBN, St. John's, Newfoundland, Can | 9410 |
| 1000-1100 | CFCN, Calgary, Alberta, Canada | 6025 |
| 1000-1100 | CHNS, Halifax, Nova Scotia, Canada | 6130 |
| 1000-1100 | Christian Science World Svc, Boston | 9455 9495 |

**1100 UTC [6:00 AM EST/3:00 AM PST]**

<p>| 1100-1100 | CKWV, Vancouver, British Columbia | 6080 |
| 1100-1100 | CFRB, Toronto, Ontario, Canada | 6070 |
| 1100-1100 | FEBC Radio Intl, Philippines | 11850 |
| 1100-1100 | HCBJ, Quito, Ecuador | 9745 11925 |
| 1100-1100 | KTWR, Agana, Guam | 11805 |
| 1100-1100 | KUSW, Salt Lake City, Utah | 6135 |
| 1100-1100 | Radio Australia, Melbourne | 9580 9655 15415 |
| 1100-1100 | Radio Jordan, Guam | 15855 |
| 1100-1100 | Radio Metro, Johannesbug, S.Africa | 11805 |
| 1100-1100 | Radio Moscow World Service, USSR | 7130 7300 9780 9875 |
| 1100-1100 | Radio New Zealand, Wellington | 6100 9850 11790 |
| 1100-1100 | Voice of America-Caribbean Service | 9590 11915 |
| 1100-1100 | Voice of America-Pacific Service | 5965 11720 15425 |
| 1100-1100 | Voice of Nigeria, Lagos | 7255 |
| 1100-1100 | S WFNQ Worldwide, Louisiana | 6185 |
| 1030-1045 | Radio Budapest, Hungary | 6110 9585 9835 11925 |
| 1030-1100 | Adventist World Radio, Forli, Italy | 7230 |
| 1030-1100 | Radio Netherlands Intl, Hilversum | 6020 9505 |
| 1045-1045 | Radio Berlin Intl, East Germany | 6115 |
| 1045-1050 | Radio Budapest, Hungary | 7220 9585 9835 11910 |
| 1045-1050 | Radio Netherlands Intl, Hilversum | 11925 15160 15220 |
| 1045-1050 | CBN, St. John's, Newfoundland, Can | 9410 |
| 1045-1050 | CFCN, Calgary, Alberta, Canada | 6025 |
| 1045-1050 | CHNS, Halifax, Nova Scotia, Canada | 6130 |
| 1045-1050 | Christian Science World Svc, Boston | 9455 9495 |</p>
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Midwest To Alaska

West Coast To Western Europe

West Coast To Eastern Europe

Midwest To Alaska

West Coast To Western Europe

West Coast To Eastern Europe

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January 1990  MONITORING TIMES
### Frequency Section

#### 2000-2030
- **Voice of the Islamic Republic** Iran: 11895 MHz
- **Radio for Peace Int'l, Costa Rica**: 7375 MHz
- **All India Radio, New Delhi**: 7412 MHz
- **M-AABC, Alice Springs, Australia** (ML): 2310 MHz
- **CBU, Vancouver, British Columbia**: 6160 MHz
- **Radio Tallin, Estonian SSR**: 5925 MHz
- **Voice of Vietnam, Hanoi**: 9840 MHz
- **Christian Science World Service**: 13770 MHz
- **Radio Baghdad, Iraq**: 13660 MHz
- **Voice of America-Middle East Service**: 6040 MHz
- **Radio Damascus, Syria**: 15095 MHz
- **Radio Berlin Int'l, East Germany**: 9625 MHz

#### 2000-2100
- **BBC World Service, London, England**: 3955 MHz
- **Radio Africa ?**: 7190 MHz
- **Voice of Vietnam, Hanoi**: 9840 MHz
- **Radio Liberation, Malta**: 7225 MHz
- **Voice of America-Africa Service**: 7195 MHz
- **Radio Peace & Progress, USSR**: 7195 MHz
- **Radio Beijing, China**: 13660 MHz
- **Voice of America-Middle East Service**: 6040 MHz
- **Radio Damascus, Syria**: 15095 MHz
- **Radio Berlin Int'l, East Germany**: 9625 MHz

#### 2100 UTC [4:00 PM EST / 1:00 PM PST]

#### 2100-2105
- **Radio Damascus, Syria**: 15095 MHz
- **Radio Vietnam, Hanoi**: 9840 MHz
- **Voice of America-Africa Service**: 7195 MHz
- **Voice of America-Middle East Service**: 6040 MHz
- **Radio Damascus, Syria**: 15095 MHz
- **Radio Moscow World Service, USSR**: 5905 MHz
- **Radio Beijing, China**: 13660 MHz
- **Radio Barcelona, Spain**: 9690 MHz
- **Radio Japan, Tokyo**: 7140 MHz
- **Radio Peace & Progress, USSR**: 7195 MHz
- **Radio Korea, Seoul, South Korea**: 15205 MHz
- **Radio Barcelona, Spain**: 9690 MHz
- **Radio Moscow World Service, USSR**: 5905 MHz
- **Radio Baghdad, Iraq**: 13660 MHz
- **Radio Moscow World Service, USSR**: 5905 MHz

#### West Coast To Indonesia

![MHz Chart for West Coast To Indonesia](chart.png)

#### West Coast To Far East

![MHz Chart for West Coast To Far East](chart.png)

#### West Coast To Pacific

![MHz Chart for West Coast To Pacific](chart.png)
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**Monitoring Times**

January 1990

83
2200-2300 Voice of America-Eur.
2200-2300 Voice of Free China, Taiwan
2200-2300 Voice of U.A.E., Abu Dhabi, United Arab Emirates
2200-2300 WHRL, Noblesville, Indiana
2200-2300 WRNO Worldwide, Louisiana
2200-2300 WWCR, Nashville, Tennessee
2200-2300 WFMR, Oakland, California

2300-2315 Vatican Radio, Vatican City
2300-2330 Kol Israel, Jerusalem
2300-2330 Radio for Peace Intl, Costa Rica
2300-2330 Radio Polonia, Warsaw, Poland
2300-2330 Swiss Radio Intl, European Service
2335-2400 BBC English by Radio, London
2300-2330 Radio Berlin Intl, East Germany
2300-2330 Radio New Zealand, Wellington

2300 UTC [6:00 PM EST/3:00 PM PST]

2300-2315 FEBC, Manila, Philippines 6030
2300-2330 BBC English by Radio, London 6110 9625 11765 11820 15390
2300-2330 Radio Berlin Intl, East Germany 5965 9730
2300-2330 Radio Norway International, Oslo 9605
2300-2330 Radio Vinitus, Lituanian SSR 7400 9700 9765 15180 15465 17665 17690
2330-2345 WFMR, Oakland, California 5965 9505
2300-0000 A S Adventist World Radio-Asia, Guam 15125
2300-0000 BBC World Service, London, England 5975 6175 6195 7325 9570 9590 9915 11750 11945 11955 15290 17875
2300-0000 CBN, St John's, Newfoundland 6160
2300-0000 CBUR, Vancouver, British Columbia 6160
2300-0000 CFCF, Montreal, Quebec, Canada 6005
2300-0000 CFRC, Calgary, Alberta, Canada 6030

DID WE MISS SOMETHING?

Let us know your corrections and additions by sending them to frequency manager Greg Jordan at 1855-I Franciscan Terrace, Winston-Salem, NC 27127.

Send your special QSLs or good photocopies to share with other monitors as we have space. We'll copy and return them to you within the month. Send to QSL, P.O. Box 98, Brasstown, NC 28902.
WHEN THERE WILL BE
NO LONELINESS,
NO DESTITUTION,
NO SICKNESS,
NO WAR,
ONLY THEN WILL THERE
BE NO NEED
FOR THE
AMERICAN RED CROSS.

There is a need in your own community and your organization can help. Please contact your local Red Cross chapter to find out how.
The Well-Balanced Frog

When you think of mega-marketing world band radio companies, a few names often spring to mind: Sony. Panasonic. Yaesu. What most people don't realize is that one of these companies produces only a single shortwave receiver.

That company is Japan's Yaesu Musen Company and their single world band receiver is the mid-priced FRG-8800. Often known simply as the "Frog," the '8800 is a direct descendant of the FRG-7700, a receiver that first appeared on the market in 1981.

**Familiar Roster of Features**

The '8800, as sold in North America, covers longwave, AM and the entire shortwave spectrum to 30 MHz. With an optional converter, some VHF reception is possible, as well.

It has the usual gamut of tuning features -- keypad, tuning knob, a dozen memories, and a scanner -- plus digital readout of not only the frequency, but also the signal strength and time in two time zones.

**Balanced Performance**

The '8800's performance is relatively balanced. Unlike some receivers that excel in certain respects, but are relatively weak in others, the engineering of the '8800 has been generally well thought out.

Overall, performance is quite good, with sensitivity and blocking being especially worthy. Another plus is audio quality which, although not exceptional, is above average for a tabletop model.

Still, some things work less well than others. On the downside is the '8800's array of voice bandwidths from which you can choose: 8.3 and 3.8 kHz at -6 dB, as measured in our laboratory.

These are high-quality filters with excellent shape factors, but each is somewhat broader than most listeners would like. Three and 6 kHz, say, would have been more appropriate for listening to world band broadcasts. Of course, for single sideband this is even more true.

**Replacement Bandwidth Filter Available**

For DXers wanting a replacement bandwidth filter that's both of high quality and narrower, California's Radio West (619/726-3910) offers a range of Collins mechanical filters to replace the ceramic filters that come standard from the factory.

By inserting a Collins so-called 2.9 kHz or 1.9 kHz filter (these are 1.9 and 2.9 kHz at -3 dB, and thus are a bit over 2 and 3 kHz, respectively, at -6 dB), you wind up with a choice between the new 3 kHz (or 2 kHz) mechanical and stock 3.8 kHz ceramic filters.

The price for this modification -- $225, including labor -- is steep, but the Collins filter is a deluxe item that normally is found on pricey professional-caliber communications receivers, such as the RACAL 6790/GM.
Mediocre Image Rejection Improved by Preselector

Another variable that is not quite up to snuff is image rejection. This means that the '8800 allows some "repeats" to appear 910 kHz below the frequency where the station is actually operating.

This usually is not a significant problem. However, it can be resolved -- and sensitivity upgraded, to boot -- by the use of a good tunable preselector, such as the Palomar P-308 or P-305.

Overall, the Yaesu FRG-8800 is a nice receiver. Still, the difference in the street price between an '8800 and the superb Kenwood R-5000 is between $150-250, depending on whether you purchase the Kenwood with the optional high-quality 6 kHz filter.

The Yaesu FRG-8800 currently lists for $784.00.

You can hear Larry Magne's equipment reviews the first Saturday of each month, plus Passport editors Don Jensen and Tony Jones the third Saturday, over Radio Canada's "SWL Digest." For North America, "SWL Digest" is heard at 6:10 PM ET on 5960 and 9535 kHz, with a repeat Tuesday at 8:30 AM ET on 9635, 11855 and 17820 kHz. Passport's "RD White Paper" equipment reports contain everything found during its exhaustive tests of communications receivers and advanced portables. These reports are available in the U.S. from Universal Shortwave and EEB, in Canada from PIF, C.P. 232, L.d.R., Laval PQ H7N 429; and in Europe from Interbooks, 8 Abbot Street, Perth PH2 6EB, Scotland.
The new Realistic PRO-2022 scanner is a PRO-2005 look-alike, but is scaled down in terms of frequency range and memory capacity. It is more conventional, featuring frequency ranges of 30-54, 108-174, 380-512 and 806-960 MHz (cellular channels deleted).

Up to 200 channels may be memorized in ten 20-channel banks. The black plastic cabinet employs front tilt brackets for improved viewing angle; a brilliantly-backlit LCD is easy to read in any lighting condition.

A permanently-attached AC cord allows operation from 120 VAC, 60 Hz, and a 12 VDC jack permits mobile installation (no mobile mount kit or DC cord is included, however). A nine-volt battery (not included) must be inserted into a rear-panel compartment for memory backup.

A telescoping whip antenna (provided) fits through a top hole in the cabinet; for use with an external antenna, a rear-apron BNC connector is accessible. Earphones may be plugged into the front panel jack, or an external speaker may be attached to another jack on the rear apron.

A rubberized keypad allows control of up/down search, individual channel delay, individual channel lockout, selectable channel priority, six-channel scratchpad search memory and other normal scanner functions described earlier.

The sensitivity and selectivity specifications for the 2022 are rather conservative; our lab tests show the 2022 to be as sensitive as most other scanners on the market (much better than the nominal 1.0 microvolt shown in the table), with adjacent channel selectivity and image rejection on par with the contenders. Nothing special, but no disappointments, either.

Scan/search speed is much faster than specified in the manual; our sample ran at approximately 25 channels per second at high speed and 12 channels per second at low speed.

A cut above the PRO-2024 reviewed previously in MT, the PRO-2022 is now available for $349.95 at Radio Shack stores across the nation.
Feeling Left Out?

Have your favorite communications (Police, Fire, etc.) moved to the 800MHz band? Are the scanners available which access this band too expensive? If you are like many scanning enthusiasts, this can be a real dilemma. For those of you who are still in a futile search for 800 MHz coverage on your hand held scanning radio, GRE America, Inc. has a product for you. Introducing the newly developed Super Converter™ II which has all of the features that you have come to enjoy in our Super Converter™ 8001 (810 - 912 MHz coverage, etc.), and more. The Super Converter™ II has a convenient switch which allows for an instant return to normal scanning frequencies without disconnecting the unit. It is also equipped with BNC connectors for easy adaptability to your handheld scanner.

Introducing the Super Converter 8001™ from GRE America, Inc. The Super Converter 8001™ once attached allows any UHF scanning or monitoring receiver to receive the 810 to 912 MHz band.

It has been our experience that most scanning radios suffer from a lack of sensitivity due to antenna and power limitations. Introducing the GRE Super Amplifier™. The Super Amplifier™ is a compact pre-amp designed to work with scanners and it amplifies the reception of the VHF/UHF bands (from 100MHz to 1GHz) as high as 20db. The Super Amplifier™ has an adjustable gain which is controlled from the back of the unit and allows amplification level of up to 20db through all frequencies, equipped with a bypass switch to return to normal scanning frequencies. As with all other GRE products, you will find the quality and design of the Super Amplifier™ to be of the highest standard.

Wide range frequency (up to 1GHz) antenna is exclusively available from GRE America, Inc.

For more information, or a dealer near you (new dealers are welcome), contact GRE America, Inc. at the address below:

GRE America, Inc.
425 Harbor Blvd.
Belmont, California 94002
Telephone (415) 591-1400
Outside CA (800) 233-5973
Fax (415) 591-2001
Wind and Weather

E

very once in a while we get a catalogue so attractive in both presentation and product that we have a hard time holding on to our checkbook. Mind you, we're supposed to be objective, Keep our personal tastes out of this.

No, journalism be darned. The Wind and Weather catalogue is pure delight from cover to cover.

"Wind and Weather" is, in the words of the staff, "dedicated to the gentle pastime as well as the serious business of weather watching." Almost half the catalogue is devoted to weather instruments. Weathervanes occupy another major portion of the catalogue.

We've always supported the idea of weather monitoring as an important adjunct of communications monitoring, especially scanning. You'll be in better shape to know what to expect if you know what's going -- and what will be going -- on outside.

Check out the auto-alert weather radio that sounds an alarm when bad weather -- and good listening -- is on the way (You can also use a touch bar to hear any one of three National Weather Service channels. It's $60.00 plus $4.00 shipping).

The rainwise Oracle I provides a digital display of outdoor temperature, barometric pressure, wind speed, wind direction, and wind chill. It is $534.00 plus $14.00 shipping.

The computer-age Rainwise Weatherstation monitors seven different functions and rings in at $1029.00; the same unit with computer-compatible RS-232 output is $1339.00 plus $20.00 shipping.

The Wind and Weather catalogue is free from The Albion Street Water Tower, P.O. Box 2320, Mendocino, California 95460.

Electronics from Gas

I'm not sure how long this sort of thing has been going on, but gas stations have started to become department stores.

Sure, just about everyone's gotten used to the fact that you can now get a carton of Twinkies and a can of diet Coke at your favorite service station along with -- gas. But you now have the opportunity to purchase electronics from your favorite gas company as well.

Yes, stuffed in with your credit card statement is a virtual department store of "THINGS. Things like "CounterAttack -- The Car Alarm That's Like Having A Guard Dog Inside Your Car."

But let's not waste time and get right to the good stuff.

Those of you who do not have fancy receivers with scads of memory for storing and retrieving your favorite frequencies might want to check out the "Pocket Phone Bank."

The people at Gulf market this little gem as an electronic phone directory. But you can use it to store frequency information. Never again be at a loss for the BBC's main frequency, or the NOAA weather channel. It'll all be there at the touch of a button. The "Pocket Phone Bank is just $29.95 plus $4.95 shipping.

Also available from your friends at Gulf: a Regency "Programmable Hand- Held Scanner" for just $199.92 plus 5.88 shipping, a Sony

"WatchCube" color TV for $499.92 plus 7.92 shipping and the Southwestern Bell "Freedom Phone" for just $179.88.

For more information call 312-764-8210. How long before ICOM R-71A's start appearing on gas station shelves along side the Doritos is anyone's guess.

Hunting with Radio

L

ast month, author Bob Kay wrote an article on how poachers use two-way radios to coordinate their efforts in the woods. Well, according to The Sportsman's Guide, these two way radios are also used by legitimate hunters. One such unit is, appro-
priately, called "The Hunter's Hands-Free FM 2-Way Radio."

Says the catalogue: "Keep in contact with your huntin' buddies up to 1/2 mile away and let 'em know when that big buck's headin' their way."

The unit is about 2-1/2" W x 4-5/8" H x 1" deep and weighs about 0 ounces. You can pick one of these up by calling 1-800-888-6006 and asking them to charge $69.99 plus $4.95 shipping to your credit card.

Be forwarned that while The Sportsman's Guide is primarily a hunting catalogue, it contains a number of other items that are in appallingly bad taste.

"Catalogs" welcomes your participation. See something interesting in your pile of fresh junk mail? Clip it and send it in! Add your own comments.

Be sure to include the name of the catalog, the item's description, price and shipping information along with the phone order number. Send it to "Catalogs," P.O. Box 98, Brasstown, NC 28902.
Dip Meters and How to Use Them

What's this? You've never used a dip meter in your workshop or when checking antenna resonance? I've discovered that the once-universal dip meter, or dipper, is an instrument that is practically unknown to today's experimenter.

These electronic tools were known as "grid-dip oscillators" in the vacuum-tube days, and many of those older units are still in service. Heath, Milten, and Eico companies were prime suppliers of tube type dip meters. The "Cadillac" of grid dippers is the Measurements Corporation two-piece unit. It is a laboratory-grade instrument that has a separate tuning head (most other dip meters are one-piece devices) that is connected to a husky base unit that has a large indicating meter.

I have one of these fine old dippers for lab work. I use a solid-state Kenwood dipper for portable and field measurements. Keep an eye out for a clean, used dipper at electronics flea markets. They can often be purchased for as little as $10.

How Does a Dip Meter Operate?

A dip meter, whether it is a tube or transistor unit, is a tunable oscillator. It covers a wide frequency range by virtue of plug-in coils that serve as probes for checking circuit resonance. Most low-cost dippers tune from, say, 1.6 MHz to as high as 200 MHz. My Measurement Corporation dip meter tunes to 420 MHz, and a special tuning head permits using it below the standard AM broadcast band.

The plug-in coils for dippers are part of the oscillator tuned circuit. In other words, the tuned circuit coil is outboard from the cabinet, while the tuning capacitor is inboard. Each coil covers a fairly wide tuning range, such as 1.6 to 4.5 MHz.

When the dipper is tuned to the resonant frequency of an external tuned circuit that is being tested, the grid, base, or gate current of the oscillator in the dipper (depending upon the oscillator device used) declines when the dipper is tuned to the same frequency as the circuit under test. This results in a sharp drop in the indication as seen on the face of the dipper's panel meter. This pronounced dip in meter reading is the phenomenon that led to the naming of the instrument.

The dipper plug-in coil is placed close to the tuned circuit being checked in order to provide adequate coupling for obtaining a dip in meter reading. Generally, there is a spacing of less than one inch between the dipper coil and the coil of the circuit under test.

Most dippers have a feature that permits the instrument to be used as a wave meter. When the OSC/WAVEMETER switch is set for wavemeter action, the circuit on longer oscillates. The oscillator device then functions as a detector diode. Output from the detector deflects the panel meter when the dipper is tuned to the same frequency as the external RF energy source, such as the tuned circuit in an RF oscillator, or an RF amplifier that is supplied with driving power.

The dip meter can also sample RF energy from an antenna when it is used as an absorption wavemeter. Figure 1 shows the circuit of a very basic dip meter that used a JFET (junction field-effect transistor) as an oscillator. L1 is one of the plug-in coils. M1 displays the gate current of Q1.

How to Use a Dip Meter

Let's suppose that you need a tuned circuit that covers from 3 to 5 MHz. You calculate the number of coil turns as closely as you can. You now connect the home-made coil in parallel with a suitable tuning capacitor. The test circuit is laid on a nonmetallic surface (wooden workbench, etc.). You insert a dipper coil (into the dip meter) that covers the frequency range of interest. The dipper coil, which serves as the sampling probe, is placed near one end of the coil to be probed.

The proper method is shown in Figure 2. The dipper coil should be in the same plane as the coil being probed. You may not obtain a dip reading if you place the dipper coil at right angles to the coil under test.

Start with the dipper coil against one end of the coil you are testing. Adjust the dipper dial (or the external tuned-circuit variable capacitor) until you see a sharp dip (left-hand drop in meter indication) on the meter. Now, back off on the spacing between the dipper probe and the test coil and find the dip again. Repeat this process until the dip is barely discernible. This is the best distance for proper coupling between the tuned circuits.

You may now read the frequency that is indicated on the dipper readout dial. This is the approximate frequency of the tuned circuit you just tested. Dipper dials are not highly accurate. If you wish to be more precise, find the dip and allow the dipper to rest on the workbench. Tune for the dipper signal on a general-coverage receiver that has an accurate frequency readout. The dipper's signal should be fairly loud in your receiver.

You can determine the relative Q (quality factor) of a tuned circuit by observing how close the dipper probe must be in order to obtain a dip. The higher the test-circuit Q the farther the away dipper will be, while still getting a sharp dip in meter reading. Very tight (close) coupling is usually necessary when checking low-Q tuned circuits.

Dipping a Toroidal Tuned Circuit

Coils that are wound on toroids (doughnut-shaped magnetic cores) are inherently self-shielding. This means that your dipper will not couple to them as it will when checking a solenoidal air-wound coil, or one that is wound on a cylindrical coil form. This can be frustrating!

Take heart, because there is a simple way to check these tuned circuits with a dip meter. Figure 3 shows two methods for doing this. One technique is to wrap a small link through the toroid and connect it to a similar small link, as shown. The dipper coil is then inserted into the external link.
If you attach a fixed-value capacitor to the toroid, allow sufficient pigtail length to permit inserting the dip-meter coil between the toroid and the body of the capacitor. This provides sufficient dipper coupling to find the tuned-circuit resonance. The capacitor and its leads form a one-turn coupling link.

**Measuring Coil Inductance with a Dip Meter**

The inductance in microhenries (μH) of an unknown coil can be found if you place a known-value capacitor in parallel with the coil, then find the resonant frequency with your dipper. The coil inductance may be obtained from an inductance-capacitance-frequency nomograph, such as those contained in the first edition of *The ARRL Electronics Data Book*. You may also use the ARRL L/C/F Calculator, type A (no longer available) if you have one on hand.

The equation for finding inductance when the capacitance and frequency are known is presented here in simple form:

$$ L = \left(\frac{1}{2 \pi f}\right)^2 C $$

where \( L \) is the inductance, \( f \) is the frequency and \( C \) is the known capacitance for resonance. \( \pi = 3.14 \). Thus, if our measured resonant frequency is 4 MHz and the fixed-value capacitor across the unknown coil is 220 pF, the coil inductance is 7.2 μH. In this example, \( f \) is rendered in MHz, the capacitance is in pF, and the inductance is in μH. The actual formula is \( L(\mu H) = 10^6/(6.28 f^2) \times 220 \), which yields an inductance of 7.2 μH.

**Your Dipper as a Wavemeter**

Tuned circuits and broadband transformers that have RF energy flowing in them can be sampled by using your dipper as an absorption wavemeter. Plug in the appropriate coil and adjust your dipper frequency dial until the indicating meter deflects sharply to the right (up scale). This shows the operating frequency of the stage being checked. The dipper coil is placed near the circuit being probed.

**CAUTION:** Do not place your dip-meter coil near any circuit that contains high voltage or high levels of RF power (such as a high-power tube type of RF amplifier). Accidental contact with dangerous voltages can be lethal.

**Checking Antenna Resonance**

You may determine the resonant frequency of a dipole or vertical antenna by using a dip meter as you would with a tuned circuit. For example, if you wish to check resonance for a vertical antenna, simply remove the feed line and place a small three-turn coil between the feed point and ground. Insert the dipper coil into this link and tune for a dip.

Dipole antennas may be checked in a like manner. Remove the feed line and insert the three-turn coil between the two legs of the dipole (feed point), probe the link and tune for a dip in meter reading.

Vertical and dipole antennas may be checked also with a feed line attached. Connect the three-turn test link across the equipment end of the coax feed line and find a dip. Beware of dips that occur at the harmonic frequencies of the antenna. These are generally shallower dips than those you will observe at the fundamental frequency of the antenna.

**Signal-Generator Operation**

Since your dip meter is a tunable oscillator, you may use it as a signal generator. Although you can’t couple it directly to your receiver, it will radiate a signal that you can hear in your receiver. I have used a dip meter for coarse alignment of a number of receiver front ends and IF amplifiers.

**Some Final Comments**


Your workshop is not complete without a dip meter. I urge you to build or buy one. Once you learn how to use a dipper, you’ll never want to be without one!

---

1Also see B. Clark, “A Hybrid Gate-Dip Oscillator,” *QST* for June 1974, p.33.
I was fortunate enough to start the new year out with an MU-7700 memory unit for my FRG-7700 receiver, and also the matching tuner (FRT-7700) and the VHF converter (FRC-7700).

The MU-7700 came from Bob Leary at Galaxy Electronics, Box 1202, 67 Eber Avenue, Akron, OH 44308 (tel: 216-376-2402). Bob has a limited supply of MU-7700s new, in the original box, for any of you out there that need to get a memory unit for your FRG-7700. Please write or call Gaaky Electronics and confirm that Bob still has them in stock prior to sending off any money.

Bob also tells me that Galaxy specializes in hard-to-find and out-of-production accessories for other rigs in addition to handling lots of used gear. Some of your best buys in radio are via used equipment. So far, I've found only two places that do a brisk used gear business -- Galaxy Electronics and Fred Osterman's Universal Shortwave, 1280 Aida Dr., Reynoldsburg, OH 43068 (1-800-431-3939).

I have personally used both of these dealers. Bob and Fred take great pride in turning around good quality used gear at affordable prices. Both have a huge selection of new gear. So, if you didn't get what you really wanted, give yourself a Christmas present; check out the used gear at either (or both) of these locations.

Now, if I could just find the FRA-7700 active antenna ... It seems I've managed to leave out the scanner buffs over the last several columns, so here are some mods for a couple of scanners. First we'll review some mods for the Radio Shack 2004. These are identical to the sheet sent out by Grove Enterprises to those requesting 2004 mods. Then we will upgrade the new Radio Shack 2005 with a modification from MT's Bob Grove as a finale.

**PRO2004 IMPROVEMENTS**

Before setting out to perform these modifications, be aware that none of them should be attempted by anyone unfamiliar with electronic circuitry and components. *Modifications will void your warranty!*

**TOOLS REQUIRED:** Small wire cutters, small Phillips screwdriver, thin-gauge rosin core solder, needle (for clearing solder holes), desoldering tool or braid, IN914 (IN4148) small signal diodes (2), 10 MHz crystal, needle-nose pliers.

Power cord unplugged, remove the four rear cabinet screws and carefully but firmly slide the chassis from the enclosure. Turn the chassis upside down, keyboard facing you, and locate circuit board PC3.

**824-851, 869-896 MHz Restoration with 30 kHz Increments**

*Note: It is no longer lawful to monitor mobile telephone -- including cellular -- communications. This modification is intended only to restore continuous 800-1300 MHz coverage as originally provided by the design of the PRO2004 microprocessor.*

Gently pull the cover off the shielded compartment on PC3. Note the straight row of components on the left side of the compartment. Locate diode D513 and snip the lead midway so that it may be resoldered later if desired. Spread the gap slightly.

Plug the radio into the power outlet, switch it on and press RESET. Enter the frequency 845.0000 to be sure the modification was successful (no ERROR is displayed). Switch off the radio and unplug it from the power source. If this is the only modification you are attempting, replace the shield cover and reassemble the radio. If not, move on to the next modification.

**26 Channels-per-second Scan/Search Speed**

Locate ceramic resonator CX501 at the rear right corner of PC3. Remove the seven screws holding the board in place; carefully unplug connector CN501 at the left rear corner and turn the board over to expose the solder pads.

Using a desoldering tool or braid, unsolder the three leads of CX501 and remove it. Clear the three holes with a pin if necessary. Insert the leads of the 8 MHz resonator through the three holes and solder them in place.

Locate the holes for diode D514; remove any excess solder. Select a IN914 diode and bend the lead closest to the cathode stripe. Install it in the D514 holes so that it matches the adjacent diodes. Solder it carefully in place and snip excess wire.

Set PC3 back into position and reconnect CN501. Plug the radio into a power outlet, turn it on and, with the squelch set midway, verify faster scan speed. The SPEED fast/slow key will still function. Unplug the power cord and reassemble if no more modifications are intended.

**400 Channel Memory**

The seven sensors holding down PC3 will have to be removed and connector CN501, located at the left rear, will have to be carefully unplugged for this modification. Locate the holes for D510; they aren't marked, so count back from D513 -- it is the last set of holes in the row of diodes. Clean them of solder if necessary.

Select a IN914 diode and bend the lead closest to the cathode stripe. Install it in the D510 holes so that it matches the adjacent diode. Solder it carefully in place and snip excess wire. Set PC3 back into position and reconnect CN501. Plug the radio into a power outlet, turn it on and press MANUAL, 400, MANUAL, confirming the presence of 400 memory channels.

Remove the upper portion of the backing on the keypad overlay and very carefully align it with the upper edge of the keypad. Remove the rest of the backing as you slowly roll the adhesive overlay down against the surface of the keypad. Smooth it by rubbing the surface with the backing. Unplug the power cord and reassemble if no more modifications are intended.

**Beep Silencing**

Set the chassis right-side-up, remove the three screws holding the speaker assembly and gently set the speaker behind the radio. Locate resistor R212 (1 megohm; brown, black, green) near the center of where the speaker was. Snip the top lead about 1/8" from the resistor and spread the gap slightly.

Plug the power cord into a power source, switch the radio on and press several keys to confirm disabling of the beep signal. Unplug the power cord and reassemble if no more modifications are intended.

This completes all improvements to your PRO2004. Be sure you have remounted the speaker assembly with its three screws, remounted PC3 with its seven screws and one connector, and reattached both shield covers snugly in place. Slide the chassis carefully back into its cabinet -- it's a snug fit -- prying out slightly on the cabinet edges to accommodate the chassis. Reinsert and tighten the four remaining chassis screws.

**TURBO SPEED FOR THE PRO-2005 SCANNER**

A modification to increase the scan/
Monitoring Times invites you to submit your favorite projects for publication. For more information, contact Rich Arland, P.O. Box 98, Brasstown, NC 28902.

search speed in the earlier PRO2004 scanner and first published in MT was simple, involving the replacement of the time base oscillator resonator with a higher frequency crystal, and the addition of a crystal diode.

Grove Enterprises offered the fix, which voided the warranty, but discontinued the service when it was discovered that not all PRO2004 microprocessors would accept the new 10 MHz frequency. A change to 8 MHz crystals, however, solved the problem with only a small sacrifice in speed.*

While the same basic procedure works for the PRO-2005, it is more difficult to access the microprocessor crystal because of a shield plate soldered to board. If you are willing to tackle the project and feel comfortable with electronic components, F.J. Goodsell of Sussex, England, describes the procedure which should take an hour or so. The addition of the diode as described in step six may be done independently of the rest of the modification; it doesn't even require disassembly of the front panel.

You will need an HC18-style 8 or 10 MHz microprocessor crystal, fine-tip soldering pencil, small-gauge rosin-core solder, desoldering wick or tool, and small hand tools.

1. Remove top and bottom covers. Remove screws holding front panel. Unscrew ground wires and unplug all leads from the panel to the main circuit board.
2. Remove the six screws holding the microprocessor board to the front panel. Remove the board carefully so as not to bend the pins on the plug at the edge of the board.
3. Unsolder all the tabs holding the shield plate to the circuit board. Unsolder the ground wire. Lift the shield away exposing the circuit components.
4. Locate the blue-colored 7.37 MHz ceramic resonator adjacent to the large microprocessor chip. Carefully unsolder its three leads and remove it from the board. You may have to use a solder wick since the crystal is soldered to both sides of the board.
5. Install a 10 MHz microprocessor crystal from the opposite side of the board, passing the two leads through the outside holes left from the old resonator, laying it on its side for clearance and without touching any other components. Carefully solder the leads without overheating the crystal.
6. While the unit is disassembled, you may wish to install a 1N914 or 1N4148 diode which will add several more channels per second speed. The diode is installed between D502 and D503 near the corner of the board. Note the identification band on the diode and make sure it is installed in the same direction as the other two diodes before soldering it in place.
7. Temporarily reconnect the disconnected leads and plugs to check the unit to see if it will scan; be sure none of the components are accidentally touching other parts of the radio. Reassemble in reverse order of the disassembly procedure.

After the modification the PRO2005 will scan and search at 25 or more increments per second in the fast speed and about half that at slow speed.

---

MAX-SCAN1000

The MAX-SCAN1000 is a VHF, UHF, 800MHz commercial grade receive antenna for the off-duty public safety professional.

MAX-SCAN1000 (Chrome) $29.00
MAX-SCAN1000 (Black) $34.00

FEATURES
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MAXRAD
State of the Art Antennas

*An 8 MHz crystal and 1N914 diode are available for a very limited time for $10 including shipping from Grove Enterprises, PO Box 98, Brasstown, NC 28902.

In future issues we will tackle mods for some Bearcat scanners. If any of you out there in Scanner-Land have useful mods for your favorite scanner, send them along to this column and we will see that they get into print.

Well, that's about it for this month. I have received tons of letters from readers wanting extra channels for their Sony 2001, 2002, 2003, etc. Does anyone have any mods for the older portable SW receivers that we can use? I know for a fact there are some very interesting filter mods around for the 2001, FRG-7 (great radio!), R-70/R-71, etc.

One more query, does anyone have a source for TOYO or Murata ceramic filters? These filters are generally used in the IF strips of SW and CB sets. About seven years ago, Larry Bailey, G5RBR, came up with an ingenious plan to piggy back a couple of these filters in a CB set he had converted for 10 meter FM use. The mod was a tremendous success and drastically improved the IF bandwidth of the unit. AND, it was very simple to perform. Ergo... the need to get some filters and give it a try in my Sony 2001.

Speaking of converting CB sets to 10 FM, Bob Heil of Heil Sound used to sell HyGain CB PC boards and a 10 Meter FM Handbook showing how to modify these little devils to operate on 10 FM. These mods worked on all HyGain (Cybernetics) PC boards and CB sets (23 or 40 channel) with the PLL-02A synthesizer chip on them. I managed to convert several of them (including a couple of CBs).

Now I have a HyGain 23 channel CB that was given to me and once again I have the itch to convert it to 10 FM. Anybody have the Heil 10 Meter FM Handbook or 73 Magazine article on doing this conversion? This will make good input for a future column. 73's, Rich
antenna topics

W. Clem Small, KR6A, CET
P.O. Box 98
Brasstown, NC 28902

To Vee or not to Vee

This month we take a look at the "inverted vee," an antenna which is continually gaining popularity as a good general purpose antenna for the high frequency bands. The reason that this antenna continues to attract followers is that it has several features of interest to both amateur radio operators and monitoring buffs.

One of its most impressive features is that it can be mounted nice and high with just one support (pole, tower, tree, eave of the roof, etc.). Most HF antennas take two supports, some take four. Another feature of interest is that the inverted-vee is nondirectional, meaning that it is good for communications in any direction. And, for you DX hounds, it has a low angle of radiation (and reception) which helps pull in those distant stations.

The inverted-vee was derived from an "old favorite," the half-wave dipole. But, since it is bent, it takes up less space on your lot than does a dipole. And the inverted-vee has no deep nulls directly off its ends, such as are found with the half-wave dipole.

In terms of responsiveness to signals, its gain is close to that of the dipole, entirely adequate for most general monitoring and communications needs. So, if you're looking for a good all-around high-frequency antenna, read on! The inverted-vee may be just what you're looking for.

Pick Your Site

First choose a high point from which to hang the antenna. Generally, the higher the apex or peak of the antenna, the better it performs, but remember to avoid putting the antenna where it may accidentally contact electric power lines. Also, check to see that there are clear spaces where the two legs of the antenna will run down from the center connector.

Concerning the bend at the top of the antenna, you shouldn't have the angle between the elements (see Figure 1) too much less than 90 degrees. (But it can be larger.) If the angle gets too large, as you can see, the antenna becomes straight, and is then a regular dipole antenna. Of course, dipoles are good antennas, but we want an inverted-vee antenna at the moment.

For Your Inverted-Vee you will need:

A. Enough wire to make the two legs. About any wire that is strong enough to resist wind and weather should work okay. When you measure the length of your antenna elements, be sure to add about eight inches or so to each wire's length initially, to provide extra length for wrapping the wire around the insulators.

B. Two end insulators for the ends, and then more end insulators to combine as a center insulator. You can make your own insulators out of heavy plastic, if you like.

C. A length of 50-ohm coaxial lead-in cable with a plug on one end to fit your receiver or transceiver. There is a good bit of variability between antenna installations, and so 75-ohm cable may match your antenna as well as 50-ohm does. And, for MONITORING ONLY purposes, it is very unlikely that you will notice any difference between 50-ohm, 75-ohm, or even the 93-ohm computer coax. If you have any of these already on hand, use it.

Let's Build it!!

Step 1. Cut the two elements (often called "legs") to length as described in A above.

Step 2. Then put one end of one wire through one of the center insulators as shown in Figure 1. Note where the end of the wire will wrap around the wire itself (see Figure 1), and scrape both the wire and its end where they will touch. Scrape till it is bright; this is to make soldering more effective. You can use a knife blade or sandpaper for this scraping.

Similarly, put the other center insulator on the other leg. These two "center insulators" are then tied together with a short loop of rope through their remaining free holes, as shown in Figure 1.

Step 3. Put the actual end insulators on the other ends of the elements by first slipping an end of an element through the insulator a few inches. Then make sure that you pull the wire end on through the end insulator just enough to make the length of the leg (from Table 1) correct. Then wrap the wire at the end insulator...
back around itself as shown in Figure 1 and cut off any excess wire. You may solder the wire, as described in step 2, if you wish, but it is not necessary.

Step 4. Wrap and solder the center wire of the coax to either one of the legs where the leg’s wires were wrapped together and soldered in step 2. Similarly wrap and solder the braid of the coax to the other leg (see Figure 1).

Step 5. Use a coax-sealing tape or black plastic tape at the end of the coax cable, to keep moisture from entering the cable. Do a good job of sealing the end of the cable. When this seal starts leaking, your antenna will soon start becoming less effective. I hesitate to recommend sealers like silicone rubber, as I have sometimes had trouble with them degrading performance badly.

Step 6. Now mount the antenna with its center high, as discussed earlier. A nylon rope from the short rope loop (Step 2) in the “center insulators” up to the mounting support is a good way to do this. Then bring both ends of the antenna down toward the ground and secure them with ropes or cables (through the end insulators) to some solid anchor point on the ground.

Good anchor points can be made with wood or metal posts or from the spiral-screw dog-leash anchors sold in pet supply stores. The dog-anchors are like giant screws that screw into the ground to provide a tie-point when no tree trunk, fence, or other solid tie point is available.

Step 7. If you live in lightning country, be sure to use lightning protection. The minimum protection is that you don’t operate in rain or stormy weather, and that you ground the antenna lead-in when the antenna is not in use.

Step 8. Run the lead-in to your rig, and you are ready to operate. Happy monitoring!

RADIO RIDDLES

Last month: Most of us are familiar with the antenna known as the “Yagi.”

The form of this antenna which you see most often is a dipole element with a reflector (its longest element) and one or more directors (the shorter elements) added (see square inset in Figure 1).

You see lots of them on rooftops as TV receiving antennas. They are also very popular as a beam antenna among hams and radio monitoring buffs. Last month I told you that calling this antenna simply a “Yagi” is a mistake, and asked you “why?”

Well, this general type of beam antenna was developed by Professor H. Yagi in Japan. The antenna was first reported in Japanese by S. Uda. It seems that Uda made some contribution to the design of the Yagi, and the more common mode, the one with only one reflector, should bear his name as well as that of Yagi.

The third edition of the Institute of Electrical and Electronic Engineers Standard Dictionary of Electrical and Electronic Terms tells us that this antenna, with its single reflector, should be called a “Yagi-Uda” antenna. On the other hand, K.F. Lee, in his book, Principles of Antenna Theory, calls this antenna a “Uda-Yagi.”

But if the beam has two or more reflector elements, it may then properly be called simply a “Yagi.” So now you can set your radio friends straight on the proper name for a very popular, and usually misnamed antenna.

This month: This month’s antenna is an inverted-vee. Are there any other “vee” antennas? How about a non-inverted vee antenna?

Find the answer to this month’s riddle, and much more, next month in your copy of Monitoring Times. Till then, Peace, DX, and 73.
Q. Where can I get a replacement owner's manual for my Bearcat scanner? (Herman Wheeler, Princeton, WV)

A. Any Bearcat scanner manual is available for $6.05 including mailing by sending the model number with your request to: Uniden parts department, 9900 Westpoint Drive, Indianapolis, IN 46250.

Q. You repeatedly say RG58/U cable is lossy for VHF/UHF scanner monitoring, yet even the Grove ANT4 mobile scanner antenna uses it. Why the contradiction? (Andy Lang, Odessa, TX)

A. The longer the cable and the higher the frequency, the greater the loss. But since a 12-foot length of RG58/U offers only 1.5 dB greater loss than premium Belden 9913 at 900 MHz, there is little reason to sacrifice the small size, flexibility and low cost of the RG58/U in mobile applications.

Q. What are the advantages and disadvantages of indoor active antennas versus full-size outdoor antennas for shortwave listening? (Kevin Angus, Wheeling, WV)

A. Properly mounted, outdoor antennas are preferable. They are higher, free of metallic signal obstructions, intercept more signal, are away from interference-causing wiring and appliances, have no power-consuming (and lightning-vulnerable) circuitry, can be used for transmitting, do not generate their own background noise, can not be strong-signal-overloaded, and are much less expensive. On the down side, they require high mounting fixtures, are exposed to weather, are long and visually distracting, cannot be easily turned for signal improvement or interference nulling, and may attract lightning.

In spite of their few shortcomings, properly planned and carefully installed, outside antennas definitely have the advantage.

Q. Can I modify my scanner which covers the 88-108 MHz FM broadcast band to get Subsidiary Carrier Authorization (SCA) signals? (Izak Luchinsky, Baltimore, MD)

A. Yes. Any radio capable of tuning the FM broadcast band can be modified to work with an SCA adaptor.

Q. Is there any likelihood that an external preamplifier may damage my receiver? Harry Brown, Pocasset, MA.

A. Likely, no; possible, yes. Most modern receivers are designed to withstand strong-signal overload without damage to sensitive components. Rarely, some radios (notably the Sony ICF2010) succumb to front-end burnout of the delicate field-effect transistors in the presence of extremely strong signals.

Q. Taxicab listings are hard to find. Where will I hear them on my scanner? (Robert Brock, Phoenix, AZ)

A. Search the following ranges: 152.270-152.450 (base), 157.530-157.710 (mobile), and 452.0375-452.5125 MHz (simplex).

Q. The BNC antenna connector on my BC200XLT scanner comes loose every few weeks and I have to open the radio to tighten it. Is this common? (George Hickman, Hoffman Estates, IL)

A. While uncommon, others have reported it. You should return it along with a copy of your sales receipt and a letter describing the problem to the Uniden Customer Service department, 6345 Castlegate Court, Indianapolis, IN 46250.

For do-it-yourselfers, the installation of a star washer (if not already present) under the nut should solve the problem. This procedure will require case disassembly and unsoldering the connector.

Q. Where do I send my Regency scanner for repair now that Uniden has bought the company? (Bob Barczak, Milwaukee, WI)

A. Regency and Bearcat scanners are sent to the same address for repair: 9900 Westpoint Drive, Indianapolis, IN 46250.

Q. Can I get a replacement battery for my old Regency HX1200 scanner? Will it charge from a 12 volt wall adapter or car battery? (David Polus, Pembroke Pines, FL)

A. Call Regency (now Uniden) parts department at 1-317-842-1036 for pricing and ordering information. The battery pack has no internal voltage regulator and will not charge from a 12 volt source without a dropping (current limiting) resistor.

Q. What frequency range is used for garage door openers? (Izak Luchinsky, Baltimore, MD)

A. Approximately 300 MHz, explaining why Air Force One causes such a problem for nearby residences when it is parked at large airports using its powerful UHF transmitters.

Q. How can I couple several HF (3-30 MHz) receivers to a common antenna line? (Fred Chapman, Fredericksburg, VA)

A. If they were scanners, it would be simple: use readil available TV-type two - set splitters found in Radio Shack and every electronic appliance department store! Actually, the same devices can be used at HF, but only down to about 3 MHz; below that frequency range they become very lossy.

Commercial installers isolate their multiple receivers by connecting through its own low-gain transistor stage to the common antenna line. This allows the signal to pass into the receiver, but no signal from the receiver to pass back the other way to interfere with other receivers.
on the line. It also maintains the nominal 50 ohm impedance of the system and provides enough gain to overcome the loss of the signal-splitting process.

Possibly the simplest way to couple two or more receivers to a common antenna line would be to use separate coax cables from each receiver, commonly connected to the main antenna coax line. Each receiver cable should have a 100 ohm, 1/4 watt or 1/2 watt resistor connected in series with the center conductor for isolation. Signal levels will go down slightly, but not enough to compromise reception noticeably.

With modern receivers, it is quite likely that you could even take all 3-4 receivers and connect their antenna lines in parallel without the isolation and suffer little in the way of mutual interference. Try it; you won't hurt a thing.

Q. I have just gotten back into ham radio after several years and notice the abundance of international broadcasters in the amateur 40 meter band. What are the frequency limits for this broadcast band? (Ken Hydeman, Kettering, OH)

A. Hams share 7.1-7.3 MHz with the international broadcasters as a primary service.

Q. Why doesn't any manufacturer make a shortwave receiver with a continuously variable selectivity filter so that we don't have to choose a specific bandwidth for AM, SSB and so on, but can custom-adjust the bandwidth for best reception? (Russ Conte, Cincinnati, OH)

A. At the present state of the art with analog receiving techniques, IF filters, whether they are crystal, ceramic, inductive or mechanical, are complex designs incorporating several interdependent elements. The properties of these elements cannot be altered without substantially changing the effectiveness of the whole filter.

In the future, when digital techniques evolve for reception, such customizing is more likely.

Q. What use will the new 136-137 MHz aircraft band extension be put to? (Izak Luchinsky, Baltimore, MD)

A. Slated to open January 1, 1990, 136-137 MHz is allocated for a variety of tasks presently used on the 118-136 MHz range, including air traffic control, UNICOM, operational control and so on.

Q. The specifications for my Kenwood R5000 receiver say that it only tunes as low as 100 kHz, yet the receiver actually goes down to 30 kHz. How come? (Doug Johnson, Wolsey, SD)
The Washington Area DX Association (WADXA) says that they are looking for a few extra hands. Seems to us that they should be easy to come by. Besides the sparkling personality of head honchos Arlene Luskin and Jay Goldberg, the group's meetings feature lively discussions and pot-luck dinners. Dues are a very affordable $6.00 a year. Even pets are welcome!

If you live in the DC area and would like to get involved in a real nice club, drop Jay and Arlene a note at 606 Forest Glen Road, Silver Spring, Maryland, 20901.

"As a reader of Ed Epstein's daily "World Insider" column in the San Francisco Chronicle, I noted that he often mentioned world band radio stations. A letter from him confirmed my suspicion."

That letter comes from our old friend, George Poppin, of San Francisco, California.

"After an exchange of correspondence," continues George, "I invited Ed to our home for a monitoring and DX session. A few days later, an article on shortwave appeared in the Chronicle.

"I believe that Ed Epstein deserves some sort of recognition for the kind of promotion he's given our hobby. He is one helluva nice person."

We did see the article and, although too lengthy to reprint here, it's really one of the best we've seen in a mass-appeal magazine (the worst, in Insight). Further, we've heard from a few readers who have also heard both George and Ed on a KCBS radio talk show. Hey! That's getting the word out!

Well, we don't have any awards handy so we're doing the next best thing. We're sending Ed a copy of the 1990 edition of Passport to World Band Radio along with our thanks and congratulations.

"When I talk to people about shortwave, they are shocked to learn that I can listen to radio broadcasts from around the world. They are shocked to find that all these countries speak, at times, in English." Clifford Legerton of Summerville, South Carolina, makes a common observation about his hobby.

"How handsome, how happy are the faces of the young East German as I share their joy on TV. I feel that shortwave radio was the key to the glorious freedom movement that is exploding not only in eastern Europe but worldwide."

"America must wake up," continues Clifford, "and learn more about the world outside of the U.S. How can we wake up this country to shortwave in the 1990s?"

Clifford, the best way to increase awareness about shortwave is to do what you are doing -- tell people about it. Let's face it though. Promoting shortwave is like any other kind of evangelical work. Not everyone is going to share our enthusiasm. But don't let that stop you. Keep on spreading the word!"
information on his station. For years our requests were ignored. They would not so much as send us a schedule despite what must have been hundreds of requests over the past decade.

We also have years of having to suffer through Radio Berlin International’s pathetic “peace and cooperation” propaganda. And it was propaganda, made all the more ironic by the fact that while the station was on the air preaching cooperation, it couldn’t manage to get a letter out to us.

They have been taking what sound like positive steps, though. We heard the director of the station concede recently that they had “emphasized the positive and minimized the negative” in the past but that the station would be objective from now on. Listeners will also note the change in the sign-on and sign-off announcement. No longer are they “building a state;” now they are “redesigning a state.”

Overall, it’s pretty heady sounding stuff. For now, though, we’ll take a wait and see attitude. It takes no effort to open the microphone and change the words. Acting professionally is a whole ‘nother story.

Yes, these are exciting times. Don’t miss the the opportunity to have a center-row seat. Tickets are free. The show starts every time you turn on your radio.

Letters should be addressed to Letters to the Editor, Monitoring Times, P.O. Box 98, Brasstown, NC 28902 and should include the sender’s address and telephone number. No all letters can be used. Those that are will often be edited and excerpted. Because of the volume of mail received, personal replies are not always possible.

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Monitoring Times is happy to run brief announcements of radio events open to our readers. Send your announcements at least 60 days before the event to: Monitoring Times Convention Calendar, P.O. Box 98, Brasstown, NC 28902.

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Solving the Mysteries

Recently, as I completed the revision of the new edition of my Shortwave Directory, my curiosity was again piqued by the continued presence of "mystery" signals that have defied explanation for many years.

Although I have added new information to the "spy numbers" section, they are no longer a mystery; *MT* revealed years ago that transmissions from Virginia and Florida send encrypted messages to agents in foreign countries. Those countries use the same type of equipment to send espionage emissions to their agents in the U.S. and elsewhere.

What remains a mystery are the SLHFBs (single-letter high frequency beacons), endless Morse transmissions of a single letter such as "K" or "P". A few years ago a concentrated effort was made by the FCC and U.S. military agencies to establish the origin of these enigmatic emissions. Some, if not most, of them were determined to be within Soviet borders.


Scanner enthusiasts have mysteries of their own. When the skip is in, take a listen to 40.64 MHz FM. Several pulse tones per second will be heard if the propagation is right between you and ... who knows where?! *MT* reader David Carberry has discovered yet another pulse transmitter, this one on 33.92 MHz.

Is there any relation between the two frequencies? The FCC and IRAC (the Interdepartment Radio Advisory Committee is to federal agencies what the FCC is to civilians) allow portions of the 38.25-42 MHz band to be used for wireless microphones and other low-power devices.

Who uses such VHF/UHF pulses and for what purposes? Gumshoes hide bumper beepers on vehicles they wish to track; wildlife agents attach teeney transmitters to animals for migration and habitat studies; communications installations emit short bursts (ion-sondes) to test signal paths; government "backbone" relay sites utilize tones to confirm that each link is working.

So how can you find out who these unannounced visitors are? Not from the FCC; they only respond to licensees who are experiencing interference on their assigned frequencies and IRAC won't respond to civilians. So how about going about it the same way the pros do, with RDF (radio direction finding)?!

There are many techniques -- some quite simple -- which provide reliable bearings. A network of interested listeners using homemade loops, beams or Doppler antennas could coordinate their readings and come up with some excellent ideas as to where these signals originate.

*MT* could serve as "information central," publishing articles on RDF techniques for frequency ranges of interest and lists of frequencies and bearings of unknowns. A network of serious, suitably-equipped monitors could determine sources of intentional interference (such as those individuals who disrupt emergency communications), unintentional interference (like stuck transmitters, harmonic radiation), or our favorite mystery stations.

Does this sound like an interesting way to enlarge the scope of our hobby, or is it a bad idea? Let me know your thoughts.
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