INTERNATIONAL RADIO CLUB OF AMERICA

DX Monitor

Devoted Exclusively to Broadcast Band DXing

March 23, 1985 Volume 22, Number 27 Issue No. 716

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Well, folks, here we are with another action-packed anniversary issue. I must say it's hard to believe another year has gone by. It's even harder to believe that we, the Seattle group, have been publishing DX Monitor for almost six consecutive years.

CONVENTION NEWS

Bill Block reports that some major changes have been made in this year's convention, namely the date and the hotel. The convention will now be held August 23, 24, and 25 at the the Best Western Kingsway Inn, 420 Northeast Holiday Street in Portland, OR. Room rates are $38 single, $42 twin/queen, $45 king. Bill and co-host Pat Martin apologize for any inconvenience this change may cause anyone. In the meantime, they'll have more details on the change and other convention information in next week's DX Monitor.

ELECTIONS ARE COMING

Here's another reminder to nominate your choice of candidates for club office in the coming elections. As explained in the February 23 DX Monitor, nominations are now open for President, Secretary-Treasurer, and Board of Directors. Each club member is entitled to nominate one candidate each for President and Secretary-Treasurer, and seven candidates for Board of Directors. Nominations are open until April 15. The nominees will then be notified and will receive instructions on preparing campaign statements. Elections will then be held in June. In the meantime, exercise your right as a club member and send your choice of nominees to Rich Segalas, P.O. Box 26254, San Francisco, CA 94126.

Nominations are also open for the Ted Vasilopoulos Award. This award is given each year to the member who has contributed the most to the club and the hobby. The winner receives an engraved plaque and a year's free membership. Additional details appeared in the February 23 DXM. Send your nominations to Ric Heald, 1632 J Street, #3, Eureka, CA 95501.

WZAL TEST RESULTS

The WZAL DX test of February 25 was a great success according to arranger Kermit Geary and station manager Jim DeVan. As of March 8, the station had received 26 reports fromas far away as Colorado and Oklahoma (WZAL is in Georgia, for those who forgot). Reports were also received from as far north as Massachusetts and Wisconsin. Three people, in IL, OH & PA, sent tapes of the station on their 4 watt PSA power. All reporters will receive (or have received) an attractive certificate and other material. The station is hoping to run another test next winter, possibly at a time more convenient for west coast reception.

EASTERN DX FORUM

RICHARD EVANS
P.O. Box 1294
NORTH WALES, PA 19454

Deadlines: 3/16 3/30 4/13 5/4 6/1 6/29 7/27

Niel J. Wolfish, 706-3900 Yonge Street, Toronto, Ontario M4N 3N6
It is time to, once again, wish IRCA a Happy Anniversary!! Following tradition, I will re-introduce myself. I am 22, and in fourth year of an Economics and History program at U. of Toronto. DX'ing has been a hobby of mine for almost eleven years. I've been an IRCA member since 1977, and have been on the BoD for the past four years. Some of you may even remember my stint as Graveyard Records editor!! Hobby interests include Foreign DX (although I hear little) and Sunset Skip DX. I also DX shortwave, but not as much as I once did. Currently from Toronto, I have heard 1035 stations with 315 verifications, and 520 stations taped and/or verified. I am 10 for 10 on Canadian Provinces, but still need several American states (Alaska, Ariz., Hawaii, Ida., Nev., N.M., Oregon and Wash.) plus a QSL from Vermont. The country totals are 30/20,which are meagre in comparison to 175/110 on Short Wave. Best 10 all-time loggings and verifications (stations that are verified are underlined) are: #10: KXVQ-1500 OK, #9: WKDZ-1110 KY, #8: WDEL-1150 DE, #7: CBU-690 BC, #6: KPMC-1560 CA, #5: WAJF-1490 AL, #4: TGN-730 Guatemala, #3: TGK-1240 Guatemala, #2: Nice, France-1554, #1: KGHL-790 MT. Great to see all the Eastern support in DX Monitor. I hope it continues. 73s.

John Clemmer, 4524 - 7th Street #2303, East Moline, Illinois 61244
Happy Anniversary, IRCA! Boy, this year has sure gone by fast. The traditional re-intro -- I'm 26, single, and work for the State Board of Education in school finance. I grew up in Peoria, Ill and graduated from Bradley University. I started DXing around 1976 and joined IRCA late in '76. Have heard 800+ stations from 37 countries. I've DXed very little lately although I bagged a new state, Montana, in December, thanks to KGHL-790. Receiver remains my trusty GE Superadio. I've hosted the '79 IRCA convention in Peoria and the '82 convention in Moline; I've attended the 1977, 1980 and 1984 conventions. Other hobbies include travel, music, photography and maps. My radio interests have shifted away from DXing more towards promo collecting and airchecking. I particularly enjoy personality oriented radio and like Top 40 and country formats expecially. There is no more evening simulcasting at WLS. Only Lujack in the morning is now simulcast. Chuck Britton is now on the big 89 evenings. WMAQ is changing; running talk from NBC talknet evenings. And WAIT-820 sounds really decent now with some great big band music. There are no changes yet at local KXRK-1580; still MYL. They've applied for KTSS as new calls. My trip to Europe in Sept/Oct had to be the hilite of the past year. The people, cities and sights were just outstanding. Radio was very limited however and I was not impressed. I'm used to the variety of stations and music here. More later. 73. (John, I saw the films on the news last night (3/8) about the flooding in Peoria. Were your parents and relatives caught up in it?--rce)

Tom Jasinski, 503 Jensen Street, Shorewood, Illinois 60436
Happy Anniversary IRCA! Discovered by accident a WCFL silent period. I set my radio alarm clock for 4:45 rather than 0500 and lo and behold WCFL was nowhere in sight on Tuesday morning 2/19. S/on was at 0500 CST. Checked them on three consecutive Tuesdays and they were off. Not sure at what time the SP begins though. So far nothing new has been heard on 1000 during this SP. During the heavy snows and cold temps, I managed to pick up WBZI-1500 and WRPZ-1440. Both were on late with emergency info. Due to flooding along the Illinois river, WCSJ-1550, Morris, Ill. was forced off the air. The Xmtr and tower are located in the flood plain of the Illinois river which came up to record level. The flood put the bottom of their tower under water. This same problem forced them off the air for a few days a couple of years ago. Recent veries in from: WBAM-740, WRPZ-1440, WVFC-1530, CHAM-1280, WHBO-1040, WIZO-1380, WSJC-810, and from both specials WETB-790 and WJSO-1590. Nothing back yet from the WQPM-1300 Princeton, Minn. special test. The WZAL-1540 McDonough, Ga. test was heard weak but readable under KXEL. Also managed to pick them up a few times with very weak signals during their 4 watt test! Recent DX: WKZF-1140 heard fairly well on SSS. Can't find Hazel Green on my 1975 Rand McNally Road map. (It's on my 1973 "super-dooper" Rand-McNally road map, the one

most trucking companies use to calculate mileages with. Hazel Green, Ala. is on US 231/431 - 4 miles south of the Ala./Tenn. state line, 2 miles south of Fisk, Ala., 2 miles north of state route 100, and 13 miles north of the post office in Huntsville. It's in Madison County--rce) Talking about maps--for you trivia buffs. I have a 1978 Chicago area map printed by the Chicago Tribune. They show locations of some AM transmitter sites. The WLS site is labeled as WENR/WLS. The WENR call was dropped perhaps 40? years ago!! Local WJOL-1340 is now using 1kw at night per recent ruling for graveyarders further adding to the congestion. But am still able to hear 1330/1350 with a little patience. Am using my Atari 800XL and Model 1027 letter quality printer to type and file all correspondence. I doubt if I'll ever use a manual typewriter again!! 73's and good DX. (The report looked great, Tom!--rce)

Bill Harms, 8327 Perri Drive, Savage, Maryland 20763

Happy Birthday IRCA. Time again for the annual re-introduction. I am married to the former Becky Patch. It's been 5½ years since we tied the knot. We have been blessed with 3 children. I am 29 years old. I have been a DXer for 15½ years and a member of IRCA for 7½ years. My first QSL card was from Radio Japan in August, 1969. (That) winter I read somewhere in an electronics magazine that BCB stations also verify reception reports. Before I read the article about BCB stations issuing verifications, I used to spend my time tuning to distant stations and trying to hear what was in between my locals (I didn't know it was called DXing). I am sure most of you have gone through something similiar. Anyway, I saved up my allowance and bought a Vane Jones Log. My first BCB QSL was from WBAP. I now have over 600 QSLs, collected from when I lived in Spokane, Wash., Provo, Utah, South Korea, and now here in Maryland. I have heard over 600 stations from 38 states, 6 provinces and 32 countries in just over 2 years here. Some of my favorite experiences were DXing with coyotes and jackrabbits in the wilds of Utah using beverage antennas while listening to east coast daytimers s/on, my first TP-Japan-750, my first IRCA convention-Portland 1978 and bandscanning in Korea. In closing, IRCA saengil Ch'ukkahaeyo! Chil-ship-sahm.

Mark Connelly / WA1ION, 30 William Road, Billerica, Massachusetts 01866

Greetings to IRCA on its anniversary! Time for that annual re-intro, I guess - so here goes: I'll be 36 (well on my way to "old timer" status) by the time you get to read this. We (my wife Mary Lou, son Michael, and I) live here about 15 miles northwest of Boston. MW DXing has been a hobby of mine since about 1959/1960 when I discovered distant clear channel stations at night. By '63, I had a communications receiver and SWLing was added to the DX repertoire. The woods (Menotomy Rocks Park) behind my old house in Arlington, Mass. started to look like a "Beverage farm" by '65. That was the heyday of spy movies (James Bond), spy TV shows (Man from Uncle), and clandestine radio (British offshore pirates, Swan Island, etc.). The Cuban missile crisis and JFK assassination were recent and unsettling memories. Vietnam and the civil rights issue were big news stories. High school kids I knew that were into electronics invariably read Electronics Illustrated, Popular Electronics,and Radio-TV Experimenter. British rock 'n' roll ruled the Top 40 AM dial: FM was just for Muzak and the classics. It was during this era that IRCA was born (although I didn't join 'til about 10 years later). In '67, I got my ham ticket and started studying Electrical Engineering at Northeastern U. in Boston. What started as just a hobby had a direct influence on my choice of education and career. The company at which I presently work, GenRad, is primarily a digital test equipment builder today, but in my youth it was General Radio, an RF-products house known to most hams and DXers. Hobby interests beside DX include photography, computers, music, travel, and swimming. I listen to a variety of music: rock (old and new), country, jazz (including Big Band), folk (Irish, British, Greek, etc.), Black, and classical. One day my speakers may be reverberating with Led Zeppelin, the next day with the Boston Pops doing Leroy Anderson. The seashore is my preferred environment as it tends to feed into all of my hobbies: My parents live on Cape Cod, so I get to enjoy the beach, the seafood, and of course, the international MW DXing. At home, my main DX activity is technical experimentation. I'm enjoying the resurgence in DXer interest in propagation and electronics, plus the serious foreign DXing efforts of Kaz and others. May IRCA enjoy continued success. 73.

Ernest Cooper, 5 Anthony Street, Provincetown, Massachusetts 02657

Happy Anniversary, IRCA! Here's to many more! This has become that time of year when we "fess up" and tell all about ourselves. So, here goes. My first verie came from WFIW-940, Hopkinsville, Ky. (now WAVG-970, Louisville) (one of the earliest all-nighters) and was for reception of Dec. 28, 1932. Yes, Virginia, there WAS radio in '32! The second was a

typed card from WEXL-1310 Royal Oak, Mich., then 50 watts. And since then, I've accumulated over 2450 verifications from AM stations in 81 countries and all continents except Asia and Australasia. Oops - and Antartica! And from all states except Alaska and Hawaii. I do have seven Hawaiian veries, but they were from when Hawaii was a Territory. (I'd count it myself as a state--rce) I picked up the hobby from my father, who didn't send for veries - I found out about them later. Dad died in 1951, never having realized his DX goal of hearing California. He did, though, get XEW, Mexico City, on his Stewart-Warner 6-tube house radio. A few months after he died, I managed to hear several California stations on that set. Around 1937 or so I bought a Scott 23-tube receiver, and with that, I got many West Coast stations, and quite a few TAs. This was before the era of AN-itis, and before the advent of the directional transmitting antenna, making it fairly routine to hear regional stations coast-to-coast, and even some Graveyarders in Cal., Ore., and Wash. For a non-crystal set, that Scott could fine-tune beautifully, like Luxembourg-1439 was very often a lead-pipe cinch around 0100! When that RX died, I replaced it with a Hammaround HQ-129X, and it served me well till I purchased a HQ-180, which I still use. And, even though this is my 52nd year of DXing, the thrill is still there when I log a new one! I retired (early!) from the Federal Reserve Bank of New York at the end of '74, and moved here to where I'd been coming for vacation for several years, and with my friend Bob, bought a house, "and lived happily ever after." What a relief to be rid of the zillions of NYC ANers with their slopover! Also, what a relief just to be out of theCity! Three years ago, when WOMR-91.9 came into existence, I joined the on-air staff, and have never had as much enjoyment out of life as I'm having now! So, there is some solace, at least, in becoming an Old Goat. Forward - March, IRCA!

Karl J. Zuk, 154 Old Post Road North, Croton-on-Hudson, New York 10520
Once again it's time for congratulations to the best radio club around! I'm now 31, married with two cats, and I work in ABC television's field shop in Lodi, New Jersey. I see America free, along with ABC sports. If you want to find me, just look for the eighteen wheel trucks with the ABC logo. I can't be far way! This year has been quite an amazing one. We saw The Olympics in Los Angeles, the long presidential campaign, and the Superbowl. There was an awful lot in between too! It was also the year that I took over the Eastern DX Roundup column. Although it can be a lot of work, it is a wonderful honor to do. I hear from many members of the club personally which has brought to light an entirely different look at what makes this club tick. There are an awful lot of very talented and interesting people in this club. We have to be the most amazing collection of people when it comes to details. I can make the slightest mistake in the column, and I'll get a couple of notes per mistake correcting me. People really do read our bulletin. I would like to thank everyone who has written in. Your devotion to the club and your generosity with your time to catch your DX, write it down and send it in, is invaluable. I just type the column, YOU write it, and you write it really well. I wish I had the time most of you have to DX. My theme song is "Life in the Fast Lane". My wish for the next year is to log KFI on 640. No man has ever tried so long for a logging! All I want is just one clear ID, and maybe a Taco Bell ad, or something. I'm still trying. Go off the air already, Cuba! (Karl, don't forget the Akron station on 640; he bugs me here as well--rce) Anyway, happy anniversary IRCA. Contribute anyway you like to our club, but if you spend an hour or less a month with your ideas or results, our club will be just that much better. 73s and good DX.

John H. Demmitt, Box A, K0848, Bellefonte, Pennsylvania 16823
February 28, 1985 is a night I will always remember. While scanning down towards Radio Paradise, I happened to stop at 830 kHz when I noticed a second strong station coming in about the same SIO as WCCO. Sure enough, it was just as I had suspected - it was Radio Belize! I slowly rotated the ICF-S5W until I heard the best signal from Belize. While sitting the radio down, I happened to tilt the radio and much to my surprise, I was able to null WCCO completely. For the entire night I was able to listen to Belize which was coming in with a SIO of 443-444. I especially enjoyed listening to their program Country Band Wagon where they took requests from listeners. the news items were read in English by a woman and a man followed each news item but in Spanish. First in the news was a report that the United States just loaned Belize $13 million and that the money was now at their local bank. They gave a prayer to the country prior to the National Anthem. 73s.

Richard C. Evans, P. O. Box 1294, North Wales, Pennsylvania 19454
Well, I fall in the right sequence this week, hi. Some good memories stirred up by the Forums I've just typed, mainly by Cooper, Jasinski, Connelly and Clemmer. I joined IRCA in February, 1965, twenty years ago,

or just half my lifetime ago, since I turn the ripe old age of 40 this June. I started listening to distant stations back around 1958, and can remember coming home from school in 1961-62 and turning on the radio to listen to WBZ-1030 during the early SSS period, not knowing what was happening, of course. I wasn't in eastern Penn. at that time, tho, but in western Michigan, some 140 miles west of Detroit, in Kalamazoo. While I was in college for one year (1963-64, I started writing to stations, and IRCA picked up my name from KFAB in Omaha. Now I wish I could hear it out here, hi. Don Erickson wrote to me in June, and I got the letter just after a brief enlistment in the Air Force. I wasn't interested then but in January, 1965, I wrote for more information and sample pages and didn't waste any time then in joining. At that time, dues were $4 a year plus $2 if we wanted first class mailing. In 1970, I took over the CDXR and handled that column until 1973, and then again from 1975 to 1978. I took over the EDXF in October, 1981. I've also handled the contests for three years. Those around in the middle 70's may also remember my stint as a BoD member and two-term club president. Ernie Cooper mentioned his Dad. My Dad was an IRCA member for several years, and attended the 1973 IRCA convention in Hammond and the 1976 NRC convention in Louisville. Several times he sent in reports for my CDXR column. He dropped out of the club when we went to offset printing since he was unable to read the much smaller print. The other major interest here at the moment is collecting newspapers, and I have some 5408 different ones, from about 88 countries. I have done no DX this season, since I work days Monday thr Friday as a dispatcher/rate clerk for a truck broker, and then work evenings Monday thru Friday as a rate clerk for a local truck line. I'm still trying to go full-time at the truck lline but now am told I should know around the first of April. (I was first told I would know around the middle of February!) In 1983, I married a young lady named Barb, and then found out she doesn't like radios, television, newspapers and typewriters. Gotta run. PTL.

Spokane weeds out AM stations

By ELIZABETH JENSEN
Staff reporter

SPOKANE, WASH—Three AM stations here have gone off the air in the last year after struggling to find successful formats.

KKER-AM, a country station, went silent in February 1984.

Religious broadcaster KCKO-AM followed suit in July.

Oldies station KGGR-AM was the last to go off the air, on New Year's Eve.

KCKO has since been sold, for a reported $195,000, while KKER is still up for sale with an asking price that's said to be $150,000.

The owner of the third, KGGR, reportedly is making some technical improvements, with the aim of putting the station back on the air.

The station's tower, however, sits on a prime location for condominium development, and it is rumored the land may be sold for more than the station would be worth.

Most sources say the market is oversaturated with both AM and FM stations, and a sluggish economy has not helped the weakest of them.

"A lot of cities in the West are overpopulated with radio stations," says Jerry Jensen, general sales manager of KXLY-AM.

Adds KXLY-AM General Manager Steve Herling, "It's a tough market. There's a tremendous amount of signals. You've really got to have a strong format."

Terry Swanger, former general manager of KKER (when it was known as KSPO) adds, "There's probably room for one good station in each format."

The market, which is 91st in the Arbitron Ratings Co. listings, has about a population of 330,000 in the metro area and almost 20 radio stations.

The radio market grew last year to $6.7 million in ad sales from $8.2 million. That's a growth rate of about 6 percent, not even close to the 16-percent growth rate that the Radio Advertising Bureau says was the national average last year.

But others attribute the failures to the technical facilities of the stations, two of which were daytimers with weak signals.

"It's tough all over being an AM daytimer," says one broadcaster.

Still others think the downfall of the stations was weak management, and the fact that there was no FM sister station to support two of the stations.

"I think the well-managed radio stations, like in any other market, continued to survive," says a former employee of one of the stations. "I don't think Spokane is different than any other market. Management has to rise to the situation."

Radio broadcasters in the market agree that of the three stations, KKER-AM had the greatest chance of survival.

Under the call letters KSPO and a country format, the station was one of the top in the market until the mid-1970s, when it switched to news-talk.

With the use of NBC's doomed News and Information Service—network news programing available for up to 50 minutes per hour—the station hoped to save money.

When NIS went under in June 1977, however, the station's owners had to pick up the high cost of programing news and talk.

In 1981, the station was sold to Van Moller, a real estate investor and broker in Napa, Calif., for $400,000.

KXLY-AM switched to news-talk at the same time, and the competition started to heat up. But Neal Gladner, former operations director at KKER, says the station was beating KXLY "two to one for listeners, even at 20 percent of the power."

Mr. Gladner, who is now news and operations director at KARN-AM in Little Rock, Ark., says the problem was sales.

In addition to being understaffed, the station didn't have the resources to attract and keep trained salespeople, who were often lured away to other stations in the market after their apprenticeship at KKER.

In 1983 alone, the station went through about 27 salespeople, he estimates, turning over its six-person sales staff four times.

The station's format and call letters were changed in August 1983, in what several people described as a "last-ditch effort."

But the Spokane radio station didn't have the capital necessary to hold out.

During the three years that Mr. Moller owned the station, sources said, he lost upwards of $750,000 and at times as much as $40,000 a month.

After going off the air in February, Mr. Moller tried without luck to find a buyer.

In June, the station was placed in receivership.

The license is now being held by Andrew McClure, a radio broker in San Rafael, Calif., who is looking for a buyer.

One buyer who put down good-faith money withdrew his offer two weeks ago after his partners changed their minds.

Daytimer KGGR-AM, meanwhile, is plagued by a weak signal. But its FM sister station, KKPL, is a highly successful adult contemporary station.

The two were sold in combination, a situation, speculates one competitor, that didn't help the AM side.

"More effort was put into selling the FM," he says, "because that's where the money was."

In addition, the station's golden-oldies format was just too narrowly targeted.

The owner, Scott Christenson, could not be reached for comment.

KCKO (previously KEZE-AM), the other daytimer that went off the air, also suffered from signal problems.

It had been on and off the air, changing formats every six months for several years. It was a two-person operation when it finally went silent.

The long-term outlook for AM radio stations in the Spokane market varies according to who's talking.

Mr. McClure, who is having trouble selling KKER, says, "The market is being looked on as one not very desirable for AM radio stations right now."

But, Mr. McClure says, "I feel that Spokane has supported a number of radio stations for a number of years.

"There are certainly a lot of radio signals in the market, but I think someone with the right format ought to be able to find a niche to serve.

"Whether it's by automation or satellite, there's got to be something to meet some need," says Mr. McClure.

Steve Cody, general manager of KGA-AM and KDRK-FM, agrees.

"The Spokane market has gotten more competitive," he says.

"But I think they probably could have made (KKER) profitable, and I still think there is an awful lot of viability for AM radio in Spokane."

It will be harder now, he says, for someone to come back in the market "and be a big moneymaker.

"It'll be really tough unless they have a lot of money behind them.

"But they should be able to break even or even a little better," he says.

The radio market's fall Arbitron rating books, which come out this week, will be the next measure of AM stations' situation in Spokane.#

unknown magazine
via Ted
Fleischaker

Western DX Forum ★★★★

IRCA—Serving the Broadcast Band DX'er Since 1964

Editor: **Ric Heald, 1632 J St., #4, Eureka, CA 95501**

1982/3 DEADLINES - WEEKLY ON TUESDAY, 12 DAYS PRIOR TO PUBLICATION DATE

ROY H. MILLAR, 13714 30th AVE. NW, MARYSVILLE, WA 98270

Hello! Happy "Anny" IRCA! Yep, this is the old "retiree" checking in. In quick revue: Originally joined IRCA at its inception, but only a member for a year as I retained my membership in NRC, which I had joined in 1952, later serving as a director (with Ev Johnson and Pat Reilly, as I recall) and as editor of a Far West DX section of DX News. It was quite a few years later that I rejoined IRCA, having dropped my NRC membership.

My current DX'ing records, all based on listening in the greater Seattle area, date back to verie #1, KTNT 1400 Tacoma, a test broadcast of 03 June 1952, prior to going on the air with a RS. That date was also my eigth wedding anniversary. I cut my "eye-teeth" DX'wise circa 1939-1940 in Custer County, Colorado on a 160-acre mountain ranch which we had just moved to from Pueblo where I was raised. I believe I collected over 1,000 veries there but have none of them. Many GY'ers were only 100 watts; I remember WMBO's QSL reading, "Trying to get out on a hundred watts" picturing a felon behind bars (WMBO was in Auburn, New York. . .some of you will get the connection). Back at the ranch, KGHF Pueblo was the only strong signal daytime (500 watts; the felt more power not justified as 90% or better of listeners were within five miles of transmitter; I believe it as surrounding country was indeed sparsely populated). Of course, there were a dozen signals that I could easily pick up on a longwire, with KOA Denver the most listened to, but I could also get KOKO La Junta, KGIW Alamosa, KFKA Greely, as well as the Denver stations and KVOR Colorado Springs. At night, KTHS Hot Springs, Arkansas was popular, as best NBC Blue network station at night.

My present operation is a four-receiver/four-recorder time switch controlled monitor system, so most of my time is spent monitoring tapes of early AM reception. 73.

KEVIN C. MALIN, 12040 28th AVE. NE #B-4, SEATTLE, WA 98125

Greetings to all fellow IRCA members. This is the first time I've written to the Western DX Forum even though I've been a member for two years now.

First, let me introduce myself as an amateur radio operator for almost ten years; callsign WB7CWP - Advanced Class license. I've been a SW listener since age 12 (am now 27). In 1980 I graduated from Central Washington University in Ellensburg with a BA in Administrative Management. My current employment is with a plumbing wholesale company. I've been married for almost nine months to a beautiful lady named Heidi. She's an outside salesperson by trade and a former heavy metal DJ at KREM-FM Spokane.

It was great to meet all of the people who attended the GTG at Portzer's. The discussion of our radio hobby is very enjoyable to me. But as for my wife, she'd pay me a large sum of money to throw away all my radio gear. She thinks DX'ing is the strangest hobby there is and would like for me to become involved in other activities such as horse showing and dancing to loud electric guitars. So please send me your suggestions on how to deal with this situation, short of divorce.

Well, that's it for this time. To close, I'm experimenting with a new antenna invention. It's a telephone adapter cord coupler antenna (receiver goes into coil wrapped around cord that plugs into telephone socket. So far, ecellent results on MW and SW. Good DX and 73.

DON KASKEY, 465 BURNETT ST., #1, SAN FRANCISCO, CA 94131

Highlights of 1984 were hearing WHBO 1040 Florida and 1YA 756 New Zealand. Main targets now are KESR 600, KTOX 730, KHUG 1300. . .all victims of local slop on adjacent frequencies. Also KRZE 1280 who keeps avoiding me for some obscure reason.

Only stations logged in February were three call changes, KBEY, KOGO and KRGL. Conditions seem OK, but band is just so congested. Been trying for KSSK 590 Hawaii too, with no luck, although did hear the Cuban one night.

Washington state now has five stations off the air. Wonder if this is the start of something? I can think of a few around here I'd like to see join the list.

KFIR 1370 Sweet Home, Oregon applied for KINL some time ago, anyone know if the switched?

KHWY's signal improved here daytimes after the first week or two but they are not near as strong as KFBK or KRAK. KIQI's 1010 slop has something to do with this I'm sure.

Vegas has a CP on 650 for 10 kw which will sure add to the fun there. By 1990, Denver will be a rarity on the West Coast. Mike Hardester, good to see you back home again. Happy 21 to all. 73 de DKK.

PAUL LA FRENIERE, P.O. BOX 606, GRAND MARAIS, MN 55604

Hope this makes it in time for the anniversary issue, but if it doesn't, it won't be the first time I've been a day late and a dollar short.

As the standard re-intro goes - I'm 45, married with five kids - all grown and out on their own. I've been delivering for UPS for 21 years in the extreme northeastern tip of Minnesota where I live.

Totals are about 900 heard (domestic) about two-thirds of those were verified but lost them in a small fire in the DX shack a few years ago. Haven't tried for too many veries since that time. Going more for taping now. I don't really keep track of foreign heards as I'm more interested in domestic DX. I guess my best catch would have to be the former KPOI 1040 Honolulu back in the days when WHO had a SP on SM. I don't remember exactly when I joined IRCA, but I think it was in '74 or '75. By the way, KPOI never answered my report.

Per article in Volume 22, Number 23 on silent stations; WELY 1450 was indeed silent for a period of time in 1984, but is now back on the air as of this time.

Best of luck to everyone. 73.

NICK HALL-PATCH, 1538 AMPHION ST., VICTORIA, BC V8R 4Z6

Well, here we go again. It's not really a year since my last forum, but it feels like it. In any case, best anniversary wishes to IRCA. Actually, that's us, and I must say that "us" are quite an exceptional bunch (even if at least one has poor grammar). Each year when it comes time to vote for the TVA, I've always had a hard time choosing, as there seem to be so many who deserve it. This past season has seen the eastern part of the continent make itself heard in IRCA again. Karl Zuk and Jim Hall, so take a bow fellas, and add a couple more to the TVA short (long?) list.

If you saw my last year's re-intro, just add one year to my age and ignore the following. For those who keep track of such things, I'm 35, a self-employed gardener, married to Susan, and father of Lucy 6, and Clare 2½. What time is left over from the preceding occupation is devoted to foreign MW DX (domestic DX like Robert Wein's would be too challenging for me!), editing the technical column in this illustrious journal, homebrewing and tinkering with antennas and receivers, topped off with the occasional Beverage DX'peditions.

Best wishes to everyone in the club, and may we have many more anniversaries.

DENNIS KIBBE, 1017 W. MANHATTAN DR., TEMPE, AZ 85282

My how time flies. Hardly seems like three years since my first anniversary forum.

To those whom my name draws a blank, I'm 36, live outside Phoenix and enjoy the technical and friendship end of the hobby with DX taking a back seat.

My vital statistics are a Drake SPR-4 with a 60-foot longwire and a spiral loop for MW.

Well, that's enough about me. There are a lot more interesting people to meet like. . .(next forum please. . .)

GARY LARSON, 2806 LINCOLN, BURBANK, CA 91504 (818) 846-3081

Hello everyone. Hope there are a ton of forums for this 21st anniversary issue.

I've been an IRCA member for several years and try to do some DX each week even if not a MM. I work fulltime for a security firm. I do some tape trading with people in Missouri, Iowa, California and Kentucky and other states. I also volunteer a little time at a local educational FM station.

Hope that 1985 will be a great year for the club and that you will all support the various columns. 73 to all.

DOUG PIFER, 4366 OCEAN VIEW BLVD., #3, MONTROSE, CA 91020

Wasn't really considering it, but because the timing is right. . .Happy Anniversary, IRCA. Most folks have heard of me, but never seen me. Sound familiar? I suppose I can give a re-intro if you don't mind. I'm 26, married to Nancy and we have a son, Lucas who is six months. I work with the post office and am still working on my transfer to San Diego. (Yes Gary, yes Holly.)

My equipment includes (some used more than others) FRG-7000/2.9, R-390A, modified Radio Shack TRF, and a Radio West loop. The Yaesu is my mainstay, of course. I guess my favorite DX comes from Arizona and New Mexico but if I

catch something else, I'll keep it, hi. I like my foreign conditions also. Other interests include hiking, skiing (any kind), I collect old radios (finally did land a Philco 70B, CoWaBuNgA), stamps, old postcards and forest service paraphernalia. Amongst other items. NO, I don't live in a junk yard, hi. Oh yes, photography too. Now that my intro is done, I'll save my forum for another time. PTL and 73 in '85 de Doug.

JEF JAISUN, 12860 136th AVE. NE, KIRKLAND, WA 98034

So, IRCA is now 21. Does that mean I can get free beer in the local tavern if I wear my IRCA t-shirt? I can hear it now, "Sorry, we don't serve penguins." In this town the only thing they serve is condos, on a silver platter. Oh, and of course, business parks. And those people don't have the slightest idea what kind of Beverage I'm talking about. Speaking of which, I recently discovered one reason why conditions have been so marginal this season. I decided to check out my longwire and wasn't surprised to find it had been snapped about 140 feet from the house. My next door neighbor had some bulldozing done last year and guess what got bulldozed. . .a hald cord of alder, right on top of my wire. Twiiiiing! The other 850 feet is still out there, but the vast majority is under an acre of blackberry debris. Could be some signal loss there, hi.

Most of you no doubt noticed the page one news about 1985 elections in the 23 February DXM. Well, let me take this opportunity to wish aloud that this will be the last IRCA election balloting conducted on Mid-Summer's Eve. I've submitted to the BoD a proposal to change the election period my moving it up three months to the March DXM just prior to the anniversary issue. My reasoning is specific: I don't think the summer months are times of high priority for IRCA participation. We publish only once monthly, DX is at a minimum and vacation plans take precedence (not to mention the convention). Conversely, the anniversary issue is always a blockbuster, with interest and participation at a peak. It seems like a more logical time for elections. I guess what really promted my action was the dismal turnout of two years ago. A mere 20% of IRCA membership bothered to vote. I recognize a certain amount a apathy is necessary for a balanced society, but that's ridiculous. The reason I mention all this now, as you'll certainly hear more later, is that the change entails a vote of approval by the membership because it effectively amends the IRCA By-Laws. And the sooner we consider the issues at stake here, the sooner we can vote on them one way or another. Any comments, drop me a line, or better yet, send a forum to respective editors. Happy Birthday to us de JJ.

RANDY SEAVER, 1154 VIA TRIESTE, CHULA VISTA, CA 92011

As I enter my 22nd year of IRCA membership (time sure does fly when you're having fun, eh?), a re-introduction: I'm 41, married to Linda 15 years, with two beautiful daughter, Lori 10, and Tami 8, to keep me young. I work at Rohr Industries in Chula Vista as Chief of Aerodynamics; Rohr designs and manufactures engine pods and thrust resersers for most of the airline engines. Other activities and interests in our lives include working for the Marriage Encounter movement as a support couple, coaching the girls softball team, serving on church committees, and being chairman of the local chapter of the American Institute of Aeronautics and Astronautics (a professional aerospace engineer society) this year. We have an IBM PC that greatly eases the task of writing letters and articles, and is rapidly becoming indispensable as a tool. I do some BASIC programming on the PC, especially for MW propagation work, and have written many FORTRAN programs at work.

At the start of the year, I typed up my DX log for the year 1984, separating the items into US/Canada, Latin America and the Pacific Area. In 1984, I logged 25 states and only three provinces, nine LA countries and nine Pacific countries. By far the best DU morning was on 22 January 1984 when I logged Fiji 558 for a new country (#62 from San Diego area) and had many New Zealand stations at readable levels. Far Eastern stations were also very good the AM. Anguilla 1610 was another new country for me, and is audible nearly every mroning and evening since the San Ysidro TIS went off in mid-summer. I plan to type up the log every year so that I have a complete record of my DX. I toyed with the idea of putting my lifetime log in the computer (it's handwritten on 8x11 notebook paper now), but that's a really big job to do it right in a sortable database, and I haven't found the right software to do it in yet. If anyone has suggestions, please let me know.

I wish all DX'ers a bountiful 1985 (a late holiday wish), may your receiver be overflowing with exotic signals - just remember, you have to turn the radio <u>on</u> to hear those goodies. 73.

ROBERT WIEN, 1309 DENTWOOD DR., SAN JOSE, CA 95118

Happy Anniversary IRCA! A re-intro: I'm 24, single, currently working for Lockheed Missles and Space Company in nearby Sunnyvale as a satellite operations engineer, i.e. I fly satellites! I've been in IRCA since 1976, having amassed somewhere in the vicinity of 1200 or 1300 stations, with about 850 veries, including call changes. In case anyone has ever wondered why I report

so much to WDXR or my techniques used, I usually DX about an hour or two a night, except Sunday mornings, when I sleep in to stay up all MM. I usually DX MMs from about 2300 to 0600-0800 PLT depending on the time of year, later in winter. It's amazing what two cups of coffee can do to keep you awake. I'm so dead Monday nights, though, I go to bed right after coming home from work at 0030. I usually get my hot tips either by reading Broadcasting magazine every Wednesday at the library, checking "For the Record" section, seeing if any stations I can hear are effected, especially call changes, then I call the stations to confirm the details or deny them, then log them the following MM. I also get fresh information from the Radiophiles bulletin, and I rely heavily on Kanadian Korner for Canadian updates.

Best catches in last year or so include WHBO 1040 Pinellas Park, Florida, which I accidentally stumbled on one MM, and the other being WSLM 1220 Salem.

Ric, WHBO is a SRS pest. Haven't heard either CKIR 870 or KSPO 1050 and am getting extremely frustrated, especially with KSPO because they're 5 kw ND. CKIR is only 250 watts night directional north, but even sitting on 870 at 0730 straining to hear something u/KORD with KIEV nulled out yields absolutely nothing.

Some hot info of late: KIBS 1230 Bishop, California is becoming KBOV 01 March, per call ten days ago and in recent Broadcasting. KEED 1450 Oregon requests KRXX and in turn, KASH 1600 requests KEED. Tried last MM to see if KEED was KRXX yet but KFLS completely dominated 1450 with KEST nulled, and under KEST all there was was usual pest KVEN and KPSI. What's happened to KONE?

I've found a very special local null on 1590 which I can get by putting my hands on the GE Superadio and delicately nulling out KLIV, have goteen KOGO Ventura (ex-KBBQ) that way, also XEYX recently, still looking for KSRN, though. KMTI even managed to sneak around the null. If KLIV'll ever go off, I've a chance at KJET (ex-KZOK, KRXY (ex-KLAK) and possibly KEED (ex-KASH). If KEEN would go off, I have a chance at KBAE (ex-KRKO), been trying for that call change like crazy of late, but KTOM refuese to budge, though there are stations with them, probably KGMS. KRGL nor KUIK has made it u/KPQP, KLFF, KAMT, *&#$¢(*!

Thanks DP in Hawaii for ID'ing my unID 1340 Larry King as possibly KCNN Oklahoma, haven't heard since that morning, though I've monitored the frequency. Will check up on it. Members please send me any f/c info you may have, as I'm the new f/c list editor. 73.

JOHN C. JOHNSON, 501 5th ST. WEST, BILLINGS, MT 59101

Happy Anniversary IRCA. I'm sure there'll be many more. As some of you know I'm a Charter Member, was DX'ing in Sheridan, Wyoming back then, totals still nice, heard 797 with 611 veried. I haven't added much to that from here in Billings, 20 heard, 10 veried. Recent veries include: KRXY, KUUY, KBOZ and KTNQ. All seem to welcome reports, even asked for future reports from me.

As many of you realize there's been a lot of call changes these days, less frequency checks, less ID's and many call changes. I enjoy looking through old veries noting so many calls no longer with us.

Keeping track of DX activities on the IBM make things so much easier I'm looking forward to many hours of DX. Plans include purchase of new receiver.

Billings radio has changed quite a bit recently, 30 year-old KOYN 910 died in January due to lack of money (and listeners). KBMY 1240 died in 1984 for same reason, new KUUS is doing quite nicely, making more money than their FM rocker KZLS. KUUS (ID's as K-W-S) seems to be NSP, NBC news on the hour, elevator music. Have yet to hear frequency check - for sure not at old KBMY time. KLYC 1490 is now KNFL. Rest remain the same. I'm into my 13th year at KTVQ. May all of you have great DX in 1985.

PAT MARTIN, P.O. BOX 843, SEASIDE, OR 97138

Happy Anniversary IRCA - You're now legal at 21!

As a re-intro: I'm 35, self-employed locksmith and own my own business (has been family-owned 18 years). Started DX'ing in 1962 in Seward, Alaska and began QSL'ing in 1965. By 1967 I heard and veried all 50 states. Now have 70+ countries heard and about 68 veried and have about 1520 veries. My main DX area is foreign stations, mainly Asia and the Pacific where I have 160 Australians, 73 New Zealanders, and 73 Japanese veries. I also do a little SW, FM, TV DX from time-to-time, mainly to up my country totals. I use a Hammarlund SP-600JX (circa 1953), E.H. Scott (RBO-2, circa '53), Collins SW set plus Palomar LW converter and Q-multiplier, plus audio filters, preamps, etc. Antennas include two, 1,500-foot Beverages (East), 200-foot terminated NE antenna, loops, plus a ground system in salt water.

Again, Happy Anniversary IRCA - mayshe last another 21 years, at least. 73.

DAVID ROGERS, BOX 1-465, FT. SUPPLY, OK 73841

Greetings on another IRCA anniversary. I'm 36, a Charter Member of IRCA (joined April 1984) and have 575+ veries on BCB plus assorted FM and SW veries. I've worked at several radio stations: KALV, KGYN and KSIW. I'm presently working at Western State Hospital here in Ft. Supply. In October I passed my novice test for an amateur radio license and in January I passed the technician test. I hope to take the general exam in April. Call is KA5VAY and presently I'm only active on two meters. No new veries or DX to report.

Is it still possible to order the 1985 WRTVH? I've been listening around some on SW and I thought I'd like to get one. The last one I have is 1973. I seem to recall it was possible to order it at all times through the club.

Was listening to 1200 the other evening around LSS and heard KFNW W. Fargo, North Dakota coming in along with WOAI. I believe this is the first station I've logged on 1200 since I first heard WOAI many years ago. (I believe it was KFNW as they mentioned Fargo several times and was giving North Dakota news. 73 (Two forums marked for anniversary issue joined together-RtH.)

GLEN KIPPEL, 612 WEST AVE., MERCED, CA 95340

I hope this gets in before the deadline to wish a Happy Birthday to IRCA! As a Charter Member I would like to say that IRCA is the best marching band and fettucine-eating society west of the Colorado River! But of coure, I'm prejudiced.

In the way of a re-intro: I'm 45, married, with three junior ops, and have been DX'ing since the late '40s except for a hiatus from about 1965 to 1981. Some of my better catches have been ZBM-1 1235 from Denver (at 250 watts) and 2RE 1560 from Amarillo. Current totals from Merced are 351 stations logged, 30 countries, five continents and 30 states. Receivers used presently are a Hammarland SP-600-JX17, a couple of Collins R-388's, a GE RAX-1 and a Superadio.

To support my habit I'm a Cheap Engineer, Music Director and morning "air personality" at KAMB (FM) and engineer for KSNN (FM). And I couldn't agree more with Karl Zuk's comments on obscene DJ's - I think it's a cover-up for a lack of talent.

A further comment on proofs - the trade press couldn't seem to agree on whether they were elminiated or not, so I called the head of the FCC's Re-Regulation Task Force and got the straight scoop. Which is: Uncle Charlie could care less about a station's frequency response, noise and distortion, but stations must meet existing standards for harmonic and spurious radiations. AM stations are required to check this but the interval is at the station's discretion. I remember taking over the engineering at KREO (now KRCQ) in Indio and receiving a Second Notice of Violation from the FCC monitoring station in Hawaii because our fourth harmonic was interfering with the Honolulu control tower! That was loads of fun, hi.

New in the DX den is an Atari 800XL, which I'm training to list my personal DX log. Unfortunately, my printer is out for repair so I don't have a printout yet, and I have to do this forum on an antiquated electric typewriter. 'Til next time, 73.

CHARLES GEORGE, 6407 HOWARD, DALLAS, TX 75227

I want to thank Gary Larson for sending the airchecks of KHJ, KRLA and KHTZ. I enjoyed hearing them.

It was interesting reading Karl Zuk's and Richard Evans' coments about sexual diatribes on the radio. When I took journalism and radio courses I learned that these mediums reflect the current culture of the time. So if there's a lot of trash on the air there's probably a very good chance that is also the way popular opinion and thinking is going. I consider myself a Christian; I grew up going to a church with a liberal outlook, but now even the official doctrine has now become more conservative. I also realize there is a knob on radios to change frequencies as well as the on/off switch.

Heard what appears to be SS on 1065 in early evening which I haven't been able to ID thanks to KRLD. Anyone have any ideas?

Was wondering what's the best antenna for hearing GY's. Most are just a garble on my receiver

I know IRCA has a technical manual, however, has the club a propagation manual similar to the tech. manual? If not now, has there ever been one? 73

W. GEORGE ELLIOTT, P.O. BOX 312, PENTICTON, BC V2A 6K4

Happy 21st IRCA! Can I buy you a drink? As is tradition in DXM, this is the time I try to capsulize my life as a DX'er in thirty lines or less, hi. I'm 24, consistantly single, and this marks my entrance into my seventh year as a member of IRCA, I've also been a broadcaster for as long. In my radio career I've worked at CHIM-FM and CKOV Kelowna, as well as CIGV-FM, CKOR-FM and CKOK Penticton. I'm currently in my fourth year at CKOK working M-F 1900-0000 PLT on air.

I've been an on and off DX'er for 12 years with totals of 244/25/4, total

stations/states/provinces heard. Radios used mostly for DX'ing these days are a DX-160 and FRG-7000, both of which are attached to longwires. Other radio interests include CB, which I've been involved with for nine years, although not very active in the past five. The AM handle I use is "Brew Laddie" and I used to spend a lot of time with skip DX in the years '77-'80 on SSB where I reached about 30 states (including Hawaii and Alaska) plus Australia.

I spent the better part of 1978 DX'ing SW with the DX-160 and QSL'ed about 30 countries. . .a little time was spent scanning police band and ham bands, but I always return to my favorite, ehich is, ah. . .don't tell me, I know it. . .it's on the tip of my tongue. . .of course: BCB DX'ing!

Other interests include, radio, radio, radio. I've even recorded a comedy tape. . .much in the vein of McLean & McLean and I'm currently in the process of producing another one full of phoney radio commercials titled, "Bent Spots" so needless to say, I'm a busy guy.

One last thing before I close, I want to thank all who make this group so special and I'm glad to be a part of it. A big thanks to Ric, for putting up with my one-finger-typed forums and spelling mistakes; Nancy for all the work she's done with WDXR, it's a pleasure to contribute to it; and of course, the crew in Seattle. Thanks to all. . .good DX and '3s and '8s de WGE.

BILL BLOCK, 9307 SE CLAY ST., PORTLAND, OR 97216

Hi gang. Happy Anniversary IRCA and time for another re-intro. I'm 38 and started DX'ing in '63 and joined IRCA a year later. BCB DX is my number one interest, but I do some TV and FM DX in the season. My shack includes an R-390A, Hammarlund HQ-140-XA, FRG-7, Radio West Loop, Realistic TRF w/PICM digital readout, Heath Q-Multiplier.

This plug may be a little early, but I want to encourage everyone to come to Portland this July for the convention. 73.

ALBERT S. LOBEL, P.O. BOX 26762, SAN DIEGO, CA 92126 (619) 484-0604 or (619) 566-0092 prepaid

This is the annual Anniversary issue so a re-intro is in order, and also fitting for a re-intro as I just recently re-joined after a short absence. I'm 37, married nearly 16 years to Helene, no children, and have been a DX'er since 1966. Have been an IRCA member since 1966 with the exception of a brief absence from June'84 to January '85. In addition to IRCA, I belong to NRC, WTFDA, LWCA, SCADS and by the time this hits print, ASWLC. Am also a member of the old Radio Canada Shortwave Club. My DX interests are mainly BCB, but also have done FM, TV, LW and SW DX. I also collect old radio programs.

My occupation is appliance repair and run my own business (don't be surprised if you should call and hear the phone answered in the business name. After hours the answering machine takes over and I intercept the call if I recognize it's a DX'er calling. By the way, Helene works for AT&T.

I have a request: I'm currently working a telephone number project for the NRC Domestic Log. Would appreciate anyone willing to help to check your local phone book for the area AM, FM, TV stations and passing them along to me. FM and TV because I may someday work on a similar list for WTFDA. Would be nice for some of the DW stations as well.

Well, until next time, 73 and good DX to all IRCAns in '85 de ASL.

GUY KUDLEMYER, 1314 CITY VIEW #1, EUGENE, OR 97402

Thought I'd use the Anniversary occasion to send in my first forum. I've been a member for a couple of years, but just never had the time to contribute. If my name looks familiar, you might have seen it in DX News (been a member for about ten years) or in the PNBCDC bulletin or maybe Popular Communications. I'm 28 and have been a DX'er since 1970 and currently use a FRG-7, a tuneable longwire and a DA-7 amplified ferrite core loop, as well as a DX-160; a TRF/Selec-a-Tenna combination is used for traveling. I've lived in and DX'ed from the suburbs of Tijuana (aka Los Angeles), Honolulu and currently Eugene. My other interests?. . .glad you asked: I'm a pro football freak (my favorite teams are the Cowboys, NFL; Outlaws, USFL; and the Argonauts, CFL. I love Italian and Mexican food and I'd sell my grandmother for a condo on Maui and a Prosche. I'm also into downhill skiing and racquetball.

Ric, I agree with you: There's no music like CWM. My tastes happen to run to the "outlaw" stuff - you know, Waylon, Bocephus and Jerry Jeff - but I like a lot of the other artists like Earl Thomas Conley and John Hartford. Don't get me wrong, I also like T40 and MTV, but as far as I'm concerned, Waylong is the best. (I've got all 35 of his albums and I've seen him in concert five or six times. Tell you what Ric, you promise to dedicate a Waylon song to me on one of your shifts and I promise to listen to your show someday. . .(such a deal!).

Question and Answer time: (Here's where I supply the question) On Nancy's WDXR column, why are all the contributors represented by their initials ex-

cept for John Wilkins, who is always represented by ØW? Zero Doubleyou !! (Here's where you supply the answer)_____ Let me guess: It's got something to do with penguins, right?

Since I'm an ex-kamaaina, I enjoy the contributions of Dale Park and Dr. Wood. I wish I could have heard Dr. Wood's comments on the talk show, but for some readon, I missed it. At any rate, keep up the good work, guys.

I'm tentatively planning on attending the convention in Portland, but who knows? (The best laid plans of mice and men, and all the horseradish). 73 and the best of DX.

NANCY HARDY, 2301 PACIFIC AVE., ABERDEEN, WA 98520

It's the anniversary issue, so time for a re-intro from your WDXR editor. I;ve been a member 14 years now. From 1969 to 1973 I DX'ed from Fredonia, New York and heard 800+ stations from 46 states. Since moving to Aberdeen in 1973, I've heard 853 total from 40 states (you can easily see which is the better DX location, hi). I've been married to IRCA member Bill for nearly 11 years now - we met through IRCA. I've been in retail sales the past six-and-a-half years.

By now everyone knows my number one hobby, collecting penguin "anything." Everything from penguin clothes, stuffed penguins, etc. Even a coin from the Falkland Islands which has two penguins on it. And yes, I do collect TV programs about penguins - we have a VCR for that purpose, hi. Aside from all my penguins, my other main hobby is camping/hiking. I love to get out on the trails on the Olympic Peninsula, and am just getting into photography so that I'll be able to bring home some of the beautiful scenery we see.

Quite a bit of my spare time in the next few months will be taken up compiling and typing lists for the new Almanac (don't forget, we can use more Almanac volunteers).

One last thing, I hope to meet many of you in Portland at the convention this summer. Bill and I will be there barring an emergency (as what happened two years ago when I had emergency surgery). So, see you in July and Happy Anniversary, IRCA.

BILL HARDY, 2301 PACIFIC AVE., ABERDEEN, WA 98520

Happy Anniversary, IRCA. For a re-intro: I'm 38, married to WDXR editor Nancy, no children despite eight years of trying. I work at a retail garden center and pet store, but spent 12 years as a radio broadcaster.

I'm also the project co-ordinator for the IRCA Almanac, and I'm pleased to announce that we will be putting together a new edition of the Almanac in the next three months. If you;d like to help compile a list for the Almanac, or type portions of it, please write to me at the above address. If you wish to call (not collect), you can usually reach me at the (206) 532-6827 between 2100 and 0000 ELT weeknights (that's 1800-2100 PLT).

Most stations listings in the Almanac need to be put into frequency order. It's no big deal on a list of 30 stations or less, but some of the networks and programs are on hundreds of stations, so those of you with access to a computer can certainly save a lot of time and aggrevation. Does anyone have a goos computer program that not only sorts the stations by frequency, but also could convert local program times to Eastern? That would be especially helpful for the religious programs, American T40, etc.

We need some section editors for thins like state networks, AM-FM simulcasts, music shows, religious programs, and Canadian networks. If you're interested, please write. Details hopefully are appearing in an issue of DXM this month.

If anyone has suggestions for Almanac sections, I hope to hear from you too. Let me know by 01 May because we want to be through typing everything by early June. I plan to reinstate the sunrise/sunset maps that appeared in Volume 1 and 2. They were omitted from Volume 3.

Is there any interest in another contest to design the cover of the Almanac? The winner would win a free copy of the Almanac bearing his/her cover. Anyone with ideas for the cover please write.

73 and good DX and Happy Anniversary IRCA!

RICHARD CORRY, SNUG HARBOR, ROUTE 3, CLAY CENTER, KS 67432

It's once again anniversary time. Ric, your high regard for the workings of the postal service rivals my own. Not long ago, a letter containing a check, addressed to Manhattan, Kansas 40 miles away took 41 days to be delivered. Payment on the check was stopped for a $5 fee and a tracer was instituted, but the PO couldn't track an elephant in two feet of snow.

Having been a member of IRCA for night onto five years, I was amazed and chagrined to read on the back cover of the Monitor that the AM BCB is used in picking up some of these foreign stations. I often wondered why the details of reception was given in kHz when reception was so easily had via SW. Ah me.

Having acquired a R-2000, I have a Hallicrafters S40A to give away (circa 1947). It still receives (if you tap it just right with a wooden stick) and at last check, still had the schematics. Weighs 28 lbs on bathroom scale, has seven or eight tubes, and is free to anyone who wants to pay the UPS shipping charges. (With packing, add another five or six lbs).

Enjoy my membership and if I live long enough to learn the jargon and all the hyroglyphics, it'll have been time well spent.

Without conspiring against club officials, Ithink it's time for another display of membership by state - either tabulated or displayed on a map.

Karl Yuk seems to have a keen sense of humor, for which I commend him heartily.

As Bill Harms might say, Gung Hay Fat Choy, and 73.

STEVE MC GREEVY, 45 ELDA DR., SAN RAFAEL, CA 94903

Happy Anniversary IRCA. I think I'll start out with a re-intro. I'm 21, a junior at Sonoma State University and have been in IRCA for four years. My first love is foreign DX, usually best done on DX'peditions to Pt. Reyes. I have approximately 500 stations in 25 countries and 31 states. I also enjoy domestic DX which is where I started out. Also enjoy DX'ing VLF, mainly the Beacon Band 190-430 kHz where I have 488 beacons in 18 countries. Equipment includes an R-1000, two DX-200's, and ICF 76000, SRF-A1 FM/AM stereo. Several antenna tuners including a transmorgrified Yaesu FRT-7700 (I put in a preamp for LW and MW), which is my DX gem. I also have a Burhans active whip for LW which works very well and a Bencher Audio filter with homebrew audio notch installed. I also do a limited amount of SW DX and plan to get my novice, possibly Technician Ham license by June or July. I do some FM and TV DX during the summer. I'm proud to be an IRCAn and extend my greetings to everyone.

Pt. Reyes has a new TIS on 1610 located near Sir Francis Drake Blvd at the northernmost point of Drake's Estero, seven mile NNE of the lighthouse; gets out fairly well. Was also a short but intense opening to Europe the evening of 27 February. DXWW for details.

My personal greetings to Mark Strickert, Art Peterson, RtH, Pat Martin, George Carter and others I've met, either through correspondence or in person. REW keep up the tremendous work there in Hawaii. MaS, drop me a line. 73.

MIKE HARDESTER, 401 BIRCHWOOD CT., MODESTO, CA95350

Greetings and a Happy Anniversary to IRCA. As with tradition, a re-intro: At 35, I'm soon to be single again and am back in the city where I began DX'ing and joined IRCA in '69. For 12 years I was active duty Navy and am working on returning to duty once my divorce is final. DX locations have varied over the years (mostly courtesy of the Navy): CA, TX, NC, FL, CO and AZ. Overseas, Okinawa from '76-'79. While there, DX'ing was second only to active/family obligations. Other overseas DX locations ("Not just a job - it's an adventure") have included the Philippines, Thailand, S. Korea, India, Taiwan, Hong Kong and Nepal. . .obviously I'm a DX'aholic. Totals? Who knows? Virtually all my records remain in Colorado (excellent DX area despite the numerous locals), and all I'm certain of is the state/province total: 42/42 and 5/5 + DC.

In 1983, my government quarters were burglarized with virtually all equipment stolen. I'm presently using a R-1000 and R. West Active to DX with (both on loan from long-time DX'er Dan Sheedy-IRCA Charter member and long-time bro). Really a shame DX'ers couldn't have been around in the "old days" when WBAL 1090 was a "pest" (sorry DKK), ERBA was alive and well, Dolly Holiday and Curtis Springer were nighttime "visitors" and correction fluid was seemingly too often spilled on the "blue pages". . .which arrived 3rd class mail in a day or two after mailing! Very 73 and best of DX.

RIC HEALD, 1632 J ST., #3, EUREKA, CA 95501

Happy 21st Birthday IRCA. Notwithstanding legal age, that's never stopped IRCAns and their brew before, hi.

Re-intro: I'm 38, a professional batchelor, had worked for years as a travel agent, and currently working at KRED/KPDJ parttime, but what with the departure of one jock, plus vacations, my parttime has turned into six nights a week! Sa 1800-0100, Su 1700-2300, Mo, Tu, We 1900-0100 all PLT.

Got my first verie in 1959, KAGI 930 Grants Pass, Oregon, using a five-tube Packard Bell with antenna hookup. Interest was marginal until '63 when I heard WBZ one night and KDKA the next. Shortly afterwards, got a Philco console (circa 1934) 10-tube set and really "cleaned-up." Have used a Lafayette HA-30, a couple of Hammarlunds, a Hallicrafters, etc. along the way. Now use Yaesu's FRG-7 unmodified and SM-1 antenna. Also have GE Superadio and a TRF with homemade shotgun ferrite rod.

Quit keeping records of totals several years ago, but from the Bay Area where most of my DX has been from over the years, but it's around 1300 heard and about 60% veried from 46 states, eight or nine provinces and 35+ coun-

tries. Best domestic catch (power vs. mileage) would have to be WKTE 1090 King, North Carolina on a DX TEST with 500 watts, with Baltimore, Little Rock, and Tijuana silent on their regular MM SP!

Got introduced to DX clubs via John Oldfield. In with my verie from CJCA was a contest (pick the top ten for the next week), I won, my address was posted, Oldfield wrote explaining the hobby and joine NRC (pre-IRCA). Was about four months too late for Charter membership in IRCA. Dropped out for a few years and rejoined in '74.

Other DX locations (besides Bay Area) have been southeastern Alaska (Sitka) from '65-'68, where I cleaned up on DU's, well over 100. Then from '68-'69 an Indian village 35 miles north of the Arctic Circle in the Yukon Valley 150 miles north of Fairbanks where everyone had up longwires just to receive Fairbanks, naturally I listened to just a little more than Fairbanks, hi. It was Europe all over the dials daytime, and Asia and/or DU's at night. Several choice veries from there. Back to the Bay Area in '69 for a few months, then '70-'72 in New York City and Philadelphia area. Lived just blocks from Ernie Cooper in Brooklyn. Back to Bay Area in '72, and north to Eureka nearly three years ago.

Thanks all for the fantastic contributions to our 21st anniversary edition. I hope to be hearing from more of you in the near future before the next anniversary edition. Take care and best of DX to all and 73 de RtH. .

BRUCE PORTZER - 6546 19th Avenue N.E. - Seattle, WA 98115

Since this is the anniversary issue I thought I'd throw in a few remarks about recent happenings here.

As a reintro, I think I'm about 33 years old (it doesn't seem like it should be that much but that's what I get when I work out the math). I've been married to Evelyn for a good portion of that time. My radio interests have resulted in my dabbling around on all parts of the spectrum at one time or another, but BCB is my favorite. I'm also a Technician class ham (N7ECJ) with 2 meter and 40 meter capability at the moment, and hopes of getting an advanced class license once I break the 13 wpm barrier. I support my radio habit by working as a communications engineer for a local consulting firm.

My DX shack currently looks like a battlefield due to a massive home improvement program which includes insulating and repanelling the basement DX shack and eventually replumbing the house. Somehow, in all the confusion, my wife comandeered the table my radios were on, so now they're scattered all over the basement floor. As I recall, they include an HQ-180A, Racal RA-17, Yaesu FRG-7, a four foot loop, Sony ICF-2001, Realistic 12-655, plus test equipment, tape recorders, ham gear, and whatever else is underneath the pile of metal boxes.

As I recall, I've heard just over 2000 stations, with QSLs from 600 or so. Countries are about 60/35 (give or take a few), states 45/41, provs 7/7. I have yet to hear ME, VT, RI, DE, & NJ, and yet to verify NC, MD, CT & NH. Best DX includes numerous east coast regionals heard in the late 60's and early 70's, CKRW-610, several Europeans & Africans, DXRS-1196, and three Indonesians. Lately my DXing has been in one of two forms: 1)a Beverage antenna expedition (once every 3-6 months), 2)a DX binge in which I log all the call and frequency changes, new all-nighters, and new clear channel stations which have popped up since my last binge (about once every 1-2 months). Otherwise, I maintain my DXing interest by playing with the equipment and reading/editing DX Monitor.

I've been really thrilled to see the record quantity and quality of contributions to DX Monitor this season, since it shows there's still a lot of life in this hobby. Special thanks go out to the weekly editors, Nick Hall-Patch, Greg Minti, Pete Taylor, and Craig Healy for their excellent columns, Mark Connelly for his many excellent technical articles, and the regular contributors to the cloumns. Keep up the good work, gang, and we'll remain the best BCB DX club around. 73, bp.

South American Reception in Hawaii: First Impressions

by Richard E. Wood

My reception on March 10 of my first Bolivian, on 1200 during CBAI's silent and testing period--now identified after three Monday mornings sitting on the frequency--completes my logging of each of the Hispanic countries of South America and, since the Falklands are inactive on MW, leaves me only with the three former Guianas to hear from my favorite DX continent.

Tastes differ, but most international DXers, even those in Japan and Sri Lanka, seem to agree that the most desirable DX catches are from local stations in the Andes of South America, especially small stations in Bolivia, Paraguay, Peru and Ecuador. I know they are my prime targets, and when I selected a DX site here, I ensured that there be no horizon blockage in that direction. Watch for an article on horizon blockage and its apparent effects from this location, now in preparation.

From my home in Hawaiian Paradise Park, twelve miles as the crow flies (but over twenty by road) from Hilo, just northwest of the eastern tip of the Big Island, I have unblocked horizons to the entirety of the Americas, as well as to the U.S.S.R., Europe and (across the Atlantic) Africa. North America is much closer than South America, and, whereas from Oahu (Honolulu) San Francisco is the closest point on the American mainland, from the Big Island, Los Angeles is the closest. Among Latin American countries, Mexico is by far the closest, and this is reflected in the potent signals from XEG, XERF, XEPRS, XEROK, XEW, XEB and dozens of other Mexicans including many regional and graveyard outlets.

From there, distances increase progressively along the length of Central America. Among South American countries, extreme northwest Colombia is the closest, closely followed by the bulge of coastal Ecuador and northern Peru. Viewed on a great circle map, southern South America curves around, maintaining a fairly equal distance from me all the way to Tierra del Fuego. Brazil is a long country, and the bearing to Fortaleza in northeast Brazil passes over Panama, quite unlike the bearing to São Paulo in the south, passing over northern Chile and Paraguay.

Viewed from here, all areas of South America seem to be propagationally favorable and have an equal chance of reception. Even the closest point in South America is farther from me than New York City. But New York signals (WABC and others) are often powerful here, so it is no surprise to hear South Americans, led by Brazil but also including Uruguay, Argentina, Chile, etc., with potent signals.

In mid-February I erected a beverage, 1500 ft. long with an additional 200 ft. ground in the same direction after a 690 ohm resistor termination, oriented to Buenos Aires (122° true). By mid-March I had heard (identified) the following totals:

Number of countries: 10
Number of stations: 51

1. Colombia	13	7. Argentina	3
2. Brazil	11	8. Uruguay	2
3. Peru	7	9. {Paraguay / Bolivia}	1
4. Chile	5		
5. {Venezuela / Ecuador}	4		

I had actually logged a few of these, including Brazil but not Argentina, earlier as far back as my arrival last September, but had been held back by my lack of a properly directive antenna.

Reception times and trends

At a tropical latitude such as this, the difference between winter and summer is not great, in terms of fade-in and fade-out times, and, it seems, conditions generally. For example, I heard my first Europeans in November and have been hearing them ever since. They are still heard as I write this in mid-March.

In winter here, the U.S. mainland (and nearby Canada and Mexico) fades in a few minutes after 3 p.m. Hawaiian Time; it fades out a few minutes before 8 a.m. HST. South America fades in somewhat later, and fades out very much earlier. Earliest fade-in times observed so far have been 4:40 p.m. (0220 UTC) from Brazilians, notably 1220 and 1280 in Rio. All other South Americans follow within a few minutes; sunset skip, currently around 5 to 6 p.m., is an excellent time to DX, and there are directional openings focusing on one city or area, e.g. Rio; Machala, Ecuador; Lima; or the Colombian north coast.

I am often asked whether conditions in Hawaii vary from day to day, minute to minute. My answer is yes, but not to the extent observed at more northerly latitudes. We are much farther from the auroral zone. I have never observed a night

of intense auroral conditions, with everything to the north of Hawaii wiped out. I night without powerful U.S., Canadian and Mexican signals on every 10 kHz channel seems unthinkable. Other continents are more variable, e.g. Europe and Africa are heard some evenings, unheard others. South America is variable, and is probably not heard every night. I always check my "beacon" stations. So, following the model of Mark Connelly, "Central America / South America. 'Best Bets'for Northeastern USA DXers" (pages 36 and 37 of this issue. bp), let me offer:

Best Bets for South America from Hawaii (and West Coast of North America?)

ARGENTINA	1070	1190			
BOLIVIA	1200				
BRAZIL	1220	1280	1000	1100	1040
CHILE	1180	1060			
COLOMBIA	810	895			
ECUADOR	890	915			
PARAGUAY	920				
PERU	1010	1160	854	880	
URUGUAY	930	770			
VENEZUELA	1560	1040	890		

Note that many of these are different from Connelly's choices. For example, Mark does not even mention Brazil 1280, which I almost placed first (being the highest in frequency, it has a propagational edge, and interfering U.S. stations there have less power than XEB and CKOA on 1220). Note our different selections for Argentina, Bolivia, totally different selections for Ecuador, etc. I am pleased to report that Peru which he says may have moved to 850, is still on 854, an easy "split."

Although this represents only one month's serious work, at only one season, I think it is representative and that the respective placements of the different countries will be maintained, more or less.

An examination of daylight and darkness patterns suggests that some good deep South American receptions with less interference from North America should be possible during the northern hemisphere summer (winter there). For example, in mid-June, at 1:30 a.m. Hawaiian Time (1130 UTC), most areas east of the Rocky Mountains and east of Mexico City are in daylight, while the southern halves of Chile and Argentina, and also the Falklands, are still in darkness. This means that prime DX should be possible on such clear channels as 740, 750, 800, 920, 940, 880, 890, 1040, 1180 and 1200, which are generally dominated by powerful stations east of the Rockies, and to a lesser extent on 1130, 1520, etc. Of course, new Western stations being relentlessly assigned to all these erstwhile clear channels will make things more difficult. Easter Island and the Galápagos may also be possible.

Here is a complete list of South American stations identified:

700 HJCX R. Sutatenza, Cali
770 CX12 R. Oriental, Montevideo
900 ZYJ457 R. MEC, Rio
810 HJCY R. Sutatenza, Bogotá
820 HJED Caracol en Cali
840 HJBI Ondas del Caribe, Santa Marta
ZYK687 R. Bandeirantes, São Paulo
850 HJKC Caracol en Bogotá
854 OAX4A R. Nacional, Lima
860 ZYJ459 R. Mundial, Rio
880 OBZ4N R. Unión, Lima
890 YVLW R. América, Valencia
HCRS6 R. Superior, Machala
ZYK690 R. Gazeta, São Paulo
895 HJPM R. Galeón, Santa Marta
905 HCB02 R. Espectáculo, Guayaquil
920 HC.. C.R.O., Machala
ZP1 R. Nacional, Asunción
930 HJCS R. Continental, Bogotá
OAX4E R. Moderna, Lima
CX20 R. Monte Carlo, Montevideo
960 HJHN R. Sutatenza, Magangué
980 ZYH707 R. Nacional, Brasília
1000 ZYK522 R. Record, São Paulo
1015 HJDY R. Primavera, Bucaramanga
1040 HJAI Caracol en Barranquilla
YVLB La Voz de Carabobo, Valencia
ZYK537 R. Capital, São Paulo
1060 CB106 R. Minería, Santiago
1070 HJCG R. Santa Fé, Bogotá
LR1 R. El Mundo, Buenos Aires
1100 HJAT R. Reloj, Barranquilla
ZYK694 R. Globo, São Paulo
1130 ZYJ460 R. Nacional, Rio
1140 CB114 Emisora Metropolitana, Santiago
1160 OAX4C Once Sesenta, Lima
1170 HJNW La Voz de la Heróica, Cartagena
1180 CB118 R. Portales, Santiago
1190 LR9 R. América, Buenos Aires
1200 CP31 R. Oriental, Santa Cruz
1220 ZYJ458 R. Globo, Rio
1250 OAX4L R. Miraflores, Lima
1280 ZHY455 R. Tupi, Rio
1300 OAX4M R. Atalaya, Lima
1320 OAX4I R. La Crónica, Lima
1330 YVTV R. Visión Regional, Cd. Ojeda
1350 LS6 R. Buenos Aires
1380 CB138 R. Colocolo, Santiago (was V)
1410 CB141 R. Litoral, Valparaíso
1445V (-1443.5) R. Calidad, RíobambaHCCS5
1560 YV.. R. Mar, Puerto La Cruz

Unidentified: Brazil: 880, 1120, 1440
Colombia: 1435
Probable Peru: 1560 Probable Ecuador: 805

Let's compare this list with recent results in New Zealand. The Feb./Mar. 1984 NZ DX Times (vol. 36, no. 6) offers a handy list of "all South American stations reported to the DX Times during 1983." Let's compare the combined results of all actively reporting NZ DXers in 1983 with mine from Hawaii in the month of mid-Feb. to mid-March 1985. Not an equal comparison, but totally balanced data are hard to come by.

	NEW ZEALANDERS	REW
1. Colombia	44 stations	(#1, 13 stations)
2. Peru	13	(#3, 7)
3. Venezuela	9	(#5 tied, 4)
4. Ecuador	6	(#5 tied, 4)
5. Chile	3	(#4, 5)
6. Argentina	2	(#7, 3)
Brazil	2	(#2, 11)
8. Surinam	1	(unheard, but 725 kHz stn hrd in NZ is now off air)

unheard in NZ:
Uruguay (REW hrd 2 stns), Paraguay and Bolivia (REW hrd 1 each)

Conclusion: Hawaii and New Zealand Compared

While the New Zealanders' combined totals are still (at this point) greater than mine, their lead can be ascribed overwhelmingly to Colombian stations.

* Reception in Hawaii of stations south of the equator (i.e. in the hemisphere in which New Zealand is located) is better than in New Zealand.
* Brazilians are rare in New Zealand, with only the two most regularly heard in Hawaii (1220 and 1290) reported. The others which are often powerhouses in Hawaii are not mentioned.
* The three rare and desirable smaller deep South American countries, Uruguay and the culturally fascinating Paraguay and Bolivia, are heard in Hawaii but not in New Zealand.
* In North America and in New Zealand, South American reception is greatly dominated by numerous Colombian stations. North Americans and New Zealanders tend to hear more Colombians than the rest of South America put together. Not so in Hawaii, from which a cross-section of the continent is heard.
* Over the long run, totals of Brazil heard in Hawaii could even come to exceed Colombians heard there, because of the huge numbers of stations in Brazil.
* REW has even heard more than the New Zealanders from Chile, the South American country closest to them. Polar paths seem to limit deep South American reception in New Zealand.

A few other points: Note the dominance of certain cities (not always national capitals) which have a reputation for propagating well. Machala, Ecuador, is such a place.

I have heard nothing from northern Brazil (north of Brasilia). Also, my results from Ecuador and (by comparison with what might be expected) Colombia and Venezuela are still limited, especially when compared with the fine initial results from the River Plate countries. Part of this may be due to the two main beverages I use for South American reception. The one which I designate "red" from the color of its lead-in is (as mentioned) at 122° true, to Buenos Aires. I often use it to reduce QRM from the U.S. and find it even useful in logging, e.g. Mexican graveyarders. The one I call "black" runs 70° true, to northern Mexico, Florida, Cuba and the northern West Indies. Ecuador and north-central Brazil lie midway between these two beams.

One problem with the "red" beverage is that its back-beam passes directly along the chain of Hawaiian islands and picks up maximum signals from Oahu (Honolulu and Waipahu) and indeed from all the islands. This causes problems on such good frequencies as 760, 830, 870, 900, 990, 1040, 1110, etc. Nevertheless, I still have the best possible horizon blockage towards Oahu (10,000-plus foot mountains) and I have already heard South Americans on many Hawaiian frequencies.

I am considering building a beverage to provide maximum nulling of the U.S. mainland; a point equidistant between San Francisco and Los Angeles would be at 55° true from here and give me nulling on the largest number of undesired signals. A beverage at 90° to that would of course be at 145° true and would hit Tierra del Fuego. Its back beam would hit East Africa (across Asia), the only major inhabited part of the world I have not yet heard.

Finally, a speculation. Would Tahiti be a better MW DX location for South America than Hawaii is? There is only one active MW station there, on limited schedule (though it appears to leave its carrier on all night), so from the QRM perspective it would be near-ideal. Also, its topography is similar to that of most major islands in the Hawaiian chain, so that a southeasterly location with horizon blockage in undesired directions could be obtained. An Australian DXer was recently in Tahiti and, with just a portable, for a few days, he reported "nothing from the Americas south of Mexico." It was the same story as in Hawaii, on Pitcairn etc.--North American stations are dominant. But doubtless with good antennas and careful listening, even better results could be obtained than in Hawaii, and than in New Zealand, since no sub-polar paths are involved.

I would be glad to hear from other specialized Latin American DXers in the Pacific especially in New Zealand. Aloha.

M.F. Propagation: a wave-hop method for ionospheric field-strength prediction

P. Knight, M.A., Ph.D., C.Eng., M.I.E.E.
Research Department

Summary: A new method for calculating the strength of medium-frequency sky-wave signals at night is described. Estimated losses due to all the ionospheric and terrestrial factors which affect a wave as it propogates from transmitter to receiver are subtracted from the field strength which would arise if losses were absent. The process is carried out for each propagation mode which is likely to make a significant contribution to the received signal; the contributions are then added on a power basis. The method is intended for world-wide application and for paths of any length. Field strengths predicted by this method for 152 paths in different parts of the world have been found to agree reasonably well with measured values.

1 Introduction
2 The wave-hop method
- 2.1 Mode selection
- 2.2 Unattenuated field-strength
- 2.3 Convergence gain
- 2.4 Radiation angle
- 2.5 Ground loss at transmitter and receiver
- 2.6 Polarisation coupling loss at transmitter and receiver
- 2.7 Residual ionospheric absorption
- 2.8 Intermediate reflection loss
- 2.9 Transmitting aerial correction

3 Application of the wave-hop method
4 Comparison of measured and predicted field strengths
5 Solar-cycle, diurnal and random variations
- 5.1 Solar-cycle variation
- 5.2 Diurnal variation
- 5.3 Random variation

6 Propagation to short distances
7 Horizontal transmitting aerials
8 Discussion
9 References
10 Appendix

1 Introduction

This report describes a new method for predicting night-time sky-wave field strengths at medium frequencies, which is intended for world-wide application and for paths of any length. It is called the wave-hop method because of its similarity to the wave-hop propagation theory for v.l.f. described by the CCIR.[1]

In its present form the method calls for an appreciable number of charts and curves, described in the sections which follow, and a certain amount of engineering judgement. It should, however, be possible to adapt it to a computer; some parts of the calculation would, in fact, be more conveniently performed with a computer because of the large number of variables involved. It may also be possible to achieve a worthwhile simplification by using the charts and curves to calculate propagation curves for typical conditions, with correction curves for less-typical conditions.

The method is described in detail in Section 2 and an example of its application given in Section 3. Section 4 gives results of comparisons between predicted and measured field strengths.

2 The wave-hop method

In the wave-hop method, median field strengths are calculated individually for each ionospheric mode which is likely to contribute significantly to the field strength at the receiver. The calculation takes into account all the ionospheric and terrestrial factors which affect the wave as it propagates from transmitter to receiver. In applying the method, the first step is to use charts to determine which ionospheric modes are likely to be important. For each mode which needs to be considered, convergence gain is added to the unattenuated field strength and the following losses subtracted:

Ground loss at transmitter and receiver
Polarisation coupling loss at transmitter and receiver
Ionospheric loss
Intermediate reflection loss (for multi-hop modes)

A transmitting aerial correction is then applied to each of the modes and, if two or more are of comparable strength, their powers are added.

The calculation gives the median field strength which should be observed after sunset when nocturnal conditions are well established over the entire path. The predicted field strength also corresponds to minimum solar activity. Further corrections may then be applied to determine the quasi-maximum field strength, or the field-strength at times nearer sunset or sunrise, or at some other point in the solar cycle.

2.1 Mode selection

Although m.f. propagation is mainly via the E-layer, F-layer reflections may occur at short distances at the higher frequencies in the band. Fig. 1(*a*) shows the reflections which are likely to occur six hours after sunset if the critical frequency varies in the manner described in Reference 2. It also shows that E- and F-layer reflections may be received simultaneously on short-distance paths.

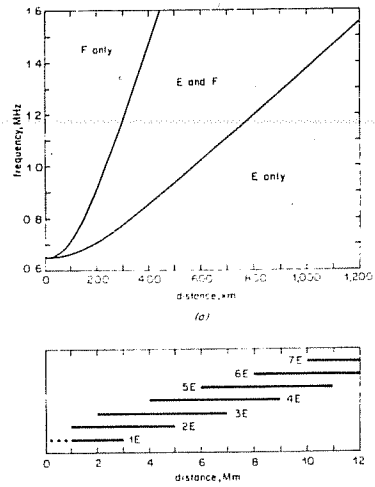

Fig. 1 Mode selection charts
(*a*) One-hop modes propagating six hours after sunset
(*b*) E-layer modes propagating to longer distances

At distances greater than 1200km, single-hop modes are unable to penetrate the E-layer, and multi-hop F-layer reflections do not usually contribute significantly to the received signal. At the longer distances, therefore, E-layer reflections are the only propagation modes which need to be considered and Fig. 1(*b*) shows the modes which should be taken into consideration. Fig. 1(*b*) takes account of diffraction around the curvature of the Earth; this may considerably extend the effective range of low-angle modes, especially when one of the terminals is situated close to the sea.

2.2 Unattenuated field-strength

The basic field strength to which convergence gain is added and from which all other losses subtracted, is shown in Fig. 2. This is the field strength which would be measured if the transmitter radiated with a cymomotive force (c.m.f.) of 300V in all directions above the horizontal and if the Earth and ionosphere behaved as perfect plane reflectors. The receiver is assumed to be connected to a loop or ferrite-rod aerial near the ground with its axis perpendicular to the direction of the transmitter; this orientation normally gives maximum pick-up.* With these assumptions, the unattenuated field-strength is given by

$$E = 66 + 20\log_{10}\frac{300}{d} \qquad (1)$$

where E is in dBs relative to 1 μV m and d is the path length via the ionosphere. Equation (1) includes 6dB to take account of the addition of the direct and ground-reflected waves at the receiver.

Fig. 2 shows the unattenuated field-strength for a range of distances measured along the surface of the Earth. In calculating d, the F-layer was assumed to have a virtual height of 220km, and the height of the E-layer was assumed to vary between 100km at vertical incidence and 90km at very oblique incidence; these heights were derived from ray-tracing computations with a model ionosphere.[1, 2]

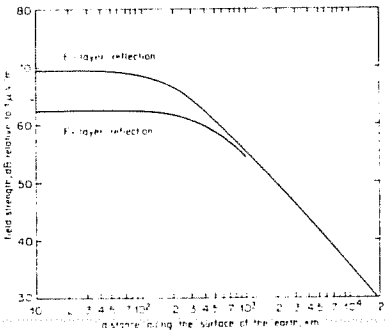

Fig. 2 Unattenuated field strength

Fig. 2 makes no allowance for convergence gain, which is discussed in the next section.

2.3 Convergence gain

The ionosphere behaves as a spherical mirror and causes a certain amount of focusing, thereby increasing the signal strength by an amount known as the convergence gain. This gain is greatest at very oblique incidence, where it is subject to an upper limit of about 9dB because waves are returned from the ionosphere by refraction rather than by specular reflection. Curves of convergence gain vs radiation angle which take refraction into account have been calculated by Bradley.[4] Fig. 3 which is derived mainly from Bradley's curves, shows convergence gain for E-layer reflections as a function of hop length measured along the surface of the Earth. The convergence gain for F-layer reflections for hop lengths less than 1000km is similar.

Although Fig. 3 was calculated for single-hop paths, it may be used for multi-hop paths with little error because ionospheric focusing on subsequent hops is approximately cancelled by defocusing at the intermediate ground reflections. It is important to note that Fig. 3 gives convergence gain as a function of hop length and not path length, and that the gain must not be included in the calculation more than once.

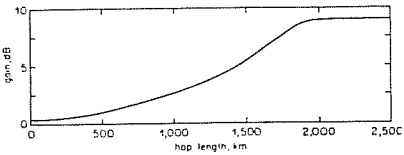

Fig. 3 Convergence gain

Since the unattenuated field strength and convergence gain are assumed to be independent of frequency, both may be combined in a single set of curves.

2.4 Radiation angle

An important parameter is the radiation angle, since this affects the ground loss at transmitter and receiver, the intermediate reflection loss, and, to a lesser extent, the polarisation coupling loss.

The ray-tracing computer program described in Reference 3 gives the distance at which a wave returns to Earth for a specified radiation angle. This distance depends on the virtual height of the reflecting layer and therefore varies with frequency and direction of propagation. An extensive series of ray-tracing computations for temperate and equatorial latitudes, for all directions of propagation and for frequencies throughout the m.f. band, has shown that the relationship between radiation angle and range is remarkably constant; a single curve for each layer therefore suffices.

Fig. 4 shows radiation-angle curves for E- and F-layer reflections, derived from the ray-tracing computations.* Fig. 4 may also be used to obtain the angle of arrival at the receiver even though it may differ slightly from the radiation angle because of ionospheric tilts and effects caused by the Earth's magnetic field; for all practical purposes the two angles may be assumed to be equal.

It will be seen that Fig. 4(*b*) has been extended to include negative radiation angles; these correspond to diffraction around the curvature of the Earth, and are defined in the inset to Fig. 4(*b*). To preserve symmetry and so avoid a discon-

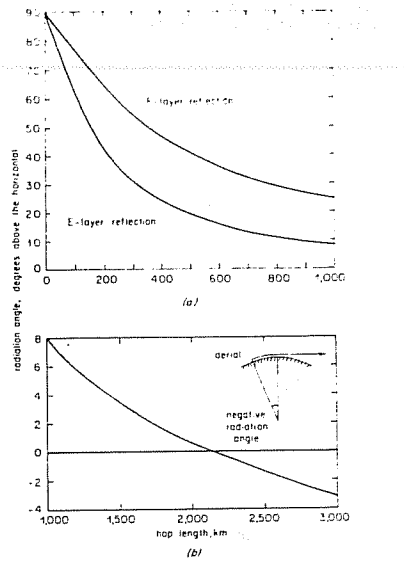

Fig. 4 Radiation angle
(*a*) short distances
(*b*) longer distances: E-layer reflection only

* On short-distance paths near the magnetic equator a different orientation may sometimes give greater pick-up.

* All the computations used for the construction of these curves were performed with the idealised electron-density profile for six hours after sunset.[4] Although slightly shorter ranges are computed for times nearer sunset, the variation of range during the night is relatively smallland may be disregarded.

tinuity in the curve, the diffraction angles are assumed to be the same at both ends of the path, although they may in fact be unequal; this point is discussed further in the next section. In calculating the negative radiation angles shown in Fig. 4(*b*), allowance was made for atmospheric refraction, which has the effect of increasing the radius of curvature of the Earth by a factor of about 1·25 at medium frequencies.[5]

Fig. 4 may be used for multi-hop paths provided the path length is divided by the number of hops. If the hop-length exceeds 2,100 km, diffraction will occur at the intermediate Earth reflection points as well as at the terminals; such multi-hop modes are unlikely to contribute significantly to the signals received over very long paths, however, because of the high total diffraction loss.

2.5 Ground loss at transmitter and receiver

In calculating the unattenuated field strength shown in Fig. 2, the transmitter was assumed to radiate with a c.m.f. of 300 V in all directions above the horizontal. Although this assumes a hypothetical reference aerial, the concept enables the actual field strength to be calculated for any practical aerial system.

In designing such a system, it is usual to assume that the ground is perfectly conducting, the effect of finite ground conductivity being taken into account subsequently. Thus if the aerial is a vertical mast or tower, the low angle radiation which is responsible for long-distance propagation via the ionosphere will be reduced by ground loss.[4] This loss, which is small at coastal sites and greatest at inland sites, must be applied as a correction to the unattenuated field strength. A similar correction must also be applied at the receiver, since all practical receiving aerials, including loop and ferrite-rod aerials, respond mainly to the vertically-polarised components of downcoming sky-waves.

If Earth curvature were neglected the ground loss at each end of path would be given by

$$L_g = 6 - 20\log_{10}\left|1 + \tilde{r}_v(\alpha)\right| \text{ dB} \qquad (2)$$

where $\tilde{r}_v(\alpha)$ is the Fresnel plane-wave reflection coefficient for vertically-polarised plane waves incident at angle α to the horizontal. Since $\tilde{r}_v = -1$ when $\alpha = 0$ for all ground conductivities, ground loss would tend to infinity at grazing incidence if the Earth were flat. Diffraction around the curvature of the Earth, however, causes ground loss to have finite values at grazing and negative radiation angles.

Diffraction around an imperfectly-conducting sphere has been studied theoretically by Wait and Conda[7] and their theory is applied here to the calculation of ground loss for radiation angles less than 5°, the radius of the Earth being increased by a factor of 1·25 to allow for atmospheric refraction. The result of the calculation, for land of various conductivities and for sea, is shown in Fig. 5 together with losses for higher angles calculated from Equation (2).

The ground-loss corrections shown in Fig. 5 are valid provided the ground is level and reasonably uniform for several kilometres in the direction of propagation. This condition may not be satisfied if the transmitter or receiver is situated near the sea or on the edge of a sea inlet, or if the aerial is situated on sloping ground or on a hill or cliff. The ground loss which arises in such circumstances is considered in detail in Reference 6.

On single-hop paths involving diffraction around the curvature of the Earth, it is reasonable to assume that the negative radiation angles at both ends of the path are equal if the ground conductivities at the two terminals are similar. When the conductivities are very different, however, this may not be true; for example if one terminal is near the sea and the other is well inland, a greater diffraction angle might be expected at the sea terminal. Calculations assuming different combinations of diffraction angles at the terminals have shown, however, that the total ground loss on such paths does not depend critically on the way in which the total diffraction angle is shared between the two ends of the path. It may therefore be assumed to be equally divided between the two ends and given by Fig. 4(*b*) even when the conductivities are dissimilar.

2.6 Polarisation coupling loss at transmitter and receiver

At medium frequencies only the ordinary wave need be considered because the extraordinary wave is greatly attenuated and seldom contributes to the received signal. Waves incident on the ionosphere may be resolved into ordinary and extraordinary waves, the ratio of the power density of the ordinary wave to that of the incident wave being known as the polarisation coupling loss. It has been shown[8] that when the transmitting aerial radiates vertical polarisation, the coupling loss is given by

$$L_c = 10\log_{10}\left(\frac{1 - M^2}{\cos^2\psi - M^2\sin^2\psi}\right) \qquad (3)$$

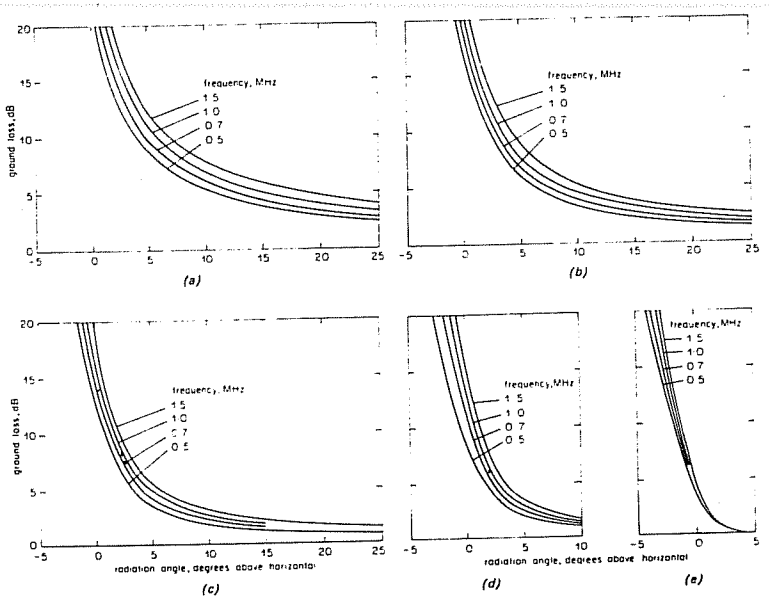

Fig. 5 Ground loss

(*a*) ground conductivity 1 mS/m (*b*) ground conductivity 3 mS/m (*c*) ground conductivity 10 mS/m
(*d*) ground conductivity 30 mS/m (*e*) sea water

where M is the axial ratio of the ordinary-wave polarisation ellipse and ψ is the angle by which its minor axis is tilted from the horizontal plane. Formulae for calculating M and ψ in terms of frequency, magnetic-dip latitude, direction of propagation and angle of incidence at the ionosphere are given in References 3 and 8.

When the elliptically-polarised ordinary wave which emerges from the ionosphere is received on a loop or open-wire aerial, additional coupling loss is incurred because m.f. receiving aerials respond only to the vertically-polarised components of downcoming waves. This loss is also given by Equation (3) provided M and ψ are the values applicable to downcoming waves.

On short single-hop paths, curves such as those of Fig. 4 of Reference 8 may be used to determine the sum of the coupling losses at transmitter and receiver. On long paths, however, the coupling losses at transmitter and receiver must be calculated separately because the magnetic dip latitudes and directions of propagation (relative to magnetic north) at

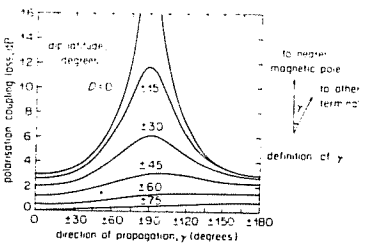

Fig. 6 Polarisation coupling loss at transmitter or receiver

the terminals will, in general, be somewhat different. In the wave-hop method described here, coupling losses at transmitter and receiver are calculated separately for paths of all lengths.

A set of curves which give polarisation coupling losses at individual terminals are contained in Fig. 6. Although polarisation coupling loss depends to some extent on frequency and angle of incidence at the ionosphere, Fig. 6 may be used with negligible error for all frequencies in the m.f. band and for radiation angles up to 20° from the horizontal. The direction of propagation γ is defined in the inset: on short paths the values of γ for the two terminals tend to be complimentary. The 'nearer magnetic pole' referred to in Fig. 6 is the magnetic pole in the same hemisphere as the point where the wave enters or leaves the ionosphere.

2.7 Residual ionospheric absorption

At m.f., ionospheric absorption depends on time after sunset, solar activity, geomagnetism and frequency. This section considers the absorption which remains late at night during periods of low solar activity.

The Earth's magnetic field has two distinct effects on ionospheric absorption. Firstly it is responsible for the auroral zones, regions centred on the magnetic poles where absorption losses are high. Distance from the auroral zone is believed to be of considerable importance; for example, ionospheric losses in North America are known to be greater than in Europe.[9] Secondly the rate of attenuation of a wave in the ionosphere depends on the angle between its direction of propagation and the direction of the Earth's magnetic field, the rate of attenuation being least when these two directions are parallel.

These two effects in combination cause ionospheric losses on NS paths to be less than on EW paths. Long NS paths usually pass through equatorial regions, where propagation tends to be parallel to the Earth's field and auroral effects are absent. On the other hand, EW paths tend to be transverse to the Earth's field, and some EW paths (especially those across the North Atlantic) are close to the auroral zone.

The way in which ionospheric losses would vary if auroral effects were absent has been studied by means of an extensive series of ray-tracing computations, using an ionospheric model assumed to be common to all geographical areas. The model is essentially the same as that derived in Reference 2 for six hours after sunset, but all collision frequencies were halved in order to obtain reasonably good agreement between measured and predicted field strengths for Europe. The ionospheric model is therefore believed to be reasonably accurate for Europe but does not necessarily apply to other parts of the World.

The method described in Reference 3 was used for the ray-tracing computations; regional variations in the strength and direction of the Earth's magnetic field were therefore taken fully into account. A detailed study was made of propagation from hypothetical transmitters situated at Berlin and at Kaduna, Africa; Kaduna lies on the geomagnetic equator. In Europe, ionospheric losses were found to be almost independent of direction of propagation; this is to be expected because the Earth's magnetic field is almost vertical. Losses on EW paths in Europe and Africa were found to be similar; this is also to be expected because EW propagation tends to be transverse to the Earth's magnetic field at all latitudes. Furthermore, step-by-step ray-tracing computations[3] have shown that most ordinary-wave attenuation occurs near the ionospheric reflection point, where EW propagation is exactly transverse and independent of the strength of the Earth's magnetic field.

Ordinary-wave losses computed for single-hop EW paths are shown by unbroken lines in Fig. 7. Although the losses decrease with increasing frequency, the reduction is less than would be expected if waves of all frequencies followed identical paths; waves of higher frequencies penetrate more deeply into the ionosphere. Fig. 7 shows that losses for low-angle modes tend to be almost independent of hop length because of the very small variation of the angle of incidence at the ionosphere.

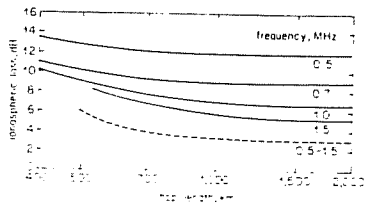

Fig. 7 Computed ionospheric losses
——— East–West propagation at all latitudes ($\theta = 90°$)
· · · · · North–south propagation at magnetic equator ($\theta = 0$)

Propagation parallel to the Earth's magnetic field was studied by computing losses on single-hop NS paths having reflection points situated at the geomagnetic equator. Although most of the computations involved reflection over Kaduna, some additional computations were made for other equatorial regions since some dependence on the strength of the Earth's magnetic field was expected. The strength of the Earth's field was, however, found to have negligible influence on the computed losses, which were also found to be almost independent of frequency. The results of the computations for equatorial NS paths are shown by the broken curve of Fig. 7.

As mentioned earlier, ionospheric loss depends on the angle θ between direction of propagation and that of the Earth's magnetic field. At the ionospheric reflection point, where most loss is incurred, the values of θ for the EW and equatorial NS paths considered here are 90° and 0 respectively. In the Appendix it is shown that the ordinary-wave loss for any other value of θ is given approximately* by

$$L_i = \frac{L_{90} \sin^2\theta + 2L_0 \cos^2\theta}{1 + \cos^2\theta} \text{ dB} \qquad (4)$$

where L_i and L_{90} are the losses given by Fig. 7 for $\theta = 0$ and 90° respectively. The value of θ at the ionospheric reflection point is given by

$$\cos\theta = \cos D \cos\gamma \qquad (5)$$

where D is the magnetic dip latitude and γ is the direction of propagation relative to the magnetic NS axis.

In calculating L_i it is convenient to arrange Equation (4) in the form

$$L_i = L_0 + (L_{90} - L_0)G \text{ dB} \qquad (6)$$

where $G = \sin^2\theta/(1 + \cos^2\theta)$.

* Losses calculated from Equation (4) for paths passing over Kaduna in all possible directions relative to the NS axis have shown good agreement with losses computed for the same paths by ray-tracing.

Fig. 8(*a*) is a contour chart which gives G in terms of D and γ.

For hop lengths greater than 1200km Equation (6) may be further simplified to

$$L_1 = 3{\cdot}0 + LG \text{ dB} \qquad (7)$$

where L is the limiting value of $L_{50} - L_0$ for long hops, derived from Fig. 7 and shown in Fig. 8(*b*) as a function of frequency.

Since the losses shown in Fig. 7 were computed with an ionospheric model which may be invalid outside Europe, losses derived from Fig. 7 for other parts of the world should be treated with caution. Near the auroral zone, such losses may have to be multiplied by a factor greater than 1·0, while in tropical regions multiplication factors less than unity may be required.

2.8 Intermediate reflection loss

Intermediate reflection loss on multi-hop paths depends on the polarisation of the downcoming wave, the polarisation of the wave accepted by the ionosphere at the next hop, and on the ground constants. There are three situations in which the loss may be high:

1. In temperate latitudes when the downcoming wave is incident at the Brewster angle, because the ordinary wave is essentially vertically polarised.
2. For East–West propagation with sea reflection at 45° dip latitude, when the ordinary wave re-enters the ionosphere as the extraordinary wave and is absorbed.

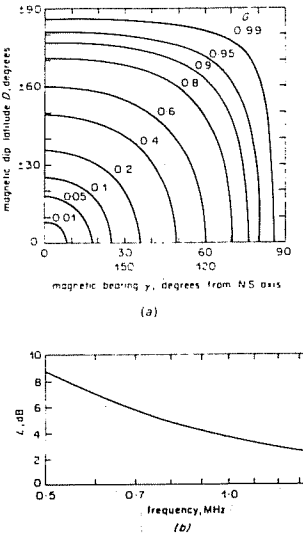

Fig. 8 Ionospheric loss charts
Ionospheric loss per hop = 3·0 + LG dB
(*a*) contour plot of G (*b*) loss factor L

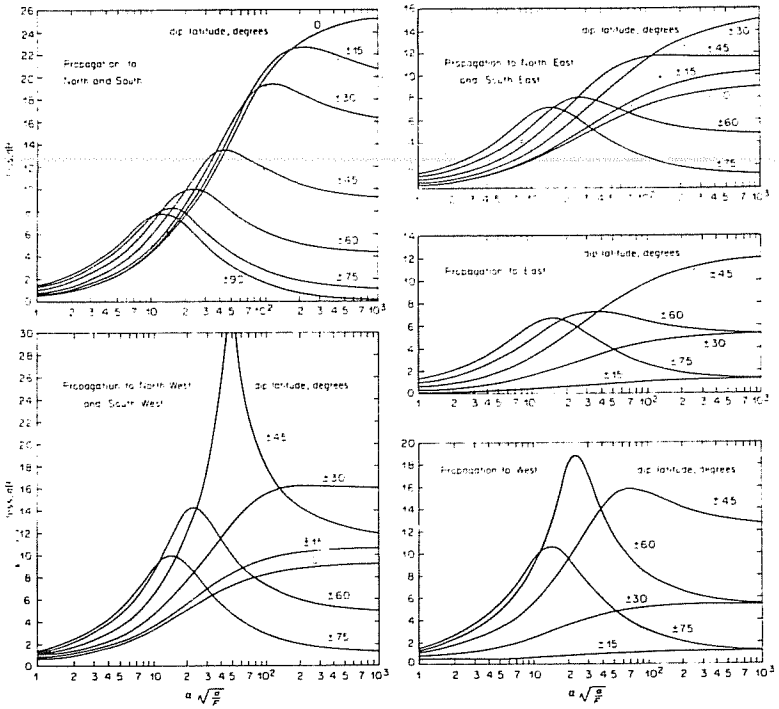

Fig. 9 Intermediate reflection loss
α = angle of arrival, degrees to horizontal
σ = ground conductivity, mS/m F = frequency, MHz
For sea water, σ ≃ 4000mS/m

3. For North South propagation with sea reflection at the magnetic equator, when the ordinary wave is again converted into the extraordinary wave and absorbed.

Intermediate reflection loss is, in general, non-reciprocal, i.e. its value changes if the direction of propagation between two given terminals is reversed. The non-reciprocal effect is most apparent when waves are reflected from land at angles near the Brewster angle, waves propagating towards the west suffering the greater loss. Waves reflected from the sea, however, have similar losses in both directions of propagation.

A general formula for intermediate reflection loss is derived in Reference 8 and quoted in Reference 2.* This loss is a function of a large number of variables and should, ideally, always be computed. To enable losses to be estimated from curves, however, the following simplifying assumptions have been made:

1. The dip latitude and direction of propagation at the points where the wave leaves the ionosphere, and re-enters after reflection, are the same as the value at the Earth reflection point, except on NS paths near the equator, where an allowance has been made for the change in dip latitude.
2. The frequency is approximately equal to the gyro-magnetic frequency.
3. The angle of incidence at the ionosphere is 80°; this angle is approximately correct for hop lengths greater than 1000 km.
4. The reflection coefficient for horizontally-polarised radiation is $-1{\cdot}0$.

Fig. 9 shows intermediate reflection losses, computed with these assumptions, for five directions of propagation relative to magnetic north and for a range of dip latitudes. The curves are plotted as a function of $\alpha(\sigma/F)^{\frac{1}{2}}$ where α is the radiation angle in degrees, σ is the ground conductivity in mS/m and F is the frequency in MHz. Because of the simplifying assumptions, Fig. 9 should not be used for values of α greater than 10°.

The theory described above makes no allowance for Earth curvature, which would be expected to have a significant effect when α is less than 2°. Although the effect of Earth curvature on intermediate reflection loss has not yet been studied, it is possible that, at grazing incidence, the loss may tend to a value of about 6 dB under all circumstances. Although greater losses would be incurred with negative radiation angles because of diffraction, multi-hop paths involving negative radiation angles are unlikely to contribute significantly to received signals.

2.9 Transmitting aerial correction

When two or more modes of comparable amplitude are present their combined effect must be calculated.

In calculating the strengths of individual modes the transmitter is assumed to radiate with a c.m.f. of 300 V at all vertical angles. Before individual modes can be added, corrections must be made for the vertical radiation pattern (v.r.p.) of the transmitting aerial.

Fig. 10 shows the corrections required for vertical transmitting aerials of various heights radiating 1 kW. The corrections are similar to those given in Fig. 1 of CCIR Report 264–2, but are drawn as a function of radiation angle. No allowance has been made for imperfect ground conductivity in deriving these curves because this is taken account of in the ground loss calculation described in Section 2.5.

After correction the modes are added on a power basis; Fig. 11 may be used for this operation. If more than two modes are significant, Fig. 11 may then be used to add the resultant of any two modes to a third; this process may be repeated until all the significant modes have been accounted for.

The path length is 6740 km and Fig. 2 indicates that the 3E, 4E and 5E modes should be considered. The radiation angle for the 3E mode is $-0{\cdot}3°$, however, and a rough estimate shows that it is unlikely to make a significant contribution to the received signal because of the diffraction losses at the terminals and at the intermediate ground reflection points. Detailed calculations were therefore confined to the 4E and 5E modes.

* In Reference 2 the last term in the numerator of the right-hand side of Equation (15) should be $j M_2 \cos\psi_2$, not $j M_2 \sin\psi_2$.

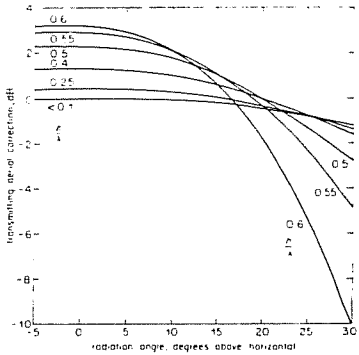

Fig. 10 Vertical transmitting aerial correction
h/λ = aerial height in wavelengths

3 Application of the wave-hop method

To illustrate the use of the wave-hop method, its application to the Rome-Tsumeb (S.W. Africa) path is described in this section. Details of the calculation are given in Table 1.

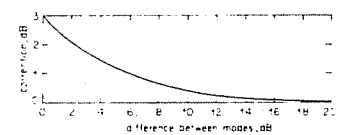

Fig. 11 Chart for mode addition

In the table the sum of the unattenuated field strength, the convergence gain and the transmitting aerial correction is referred to as the 'field strength without losses', and all losses are subtracted from this figure. Before calculating individual losses it is an advantage to tabulate all the values of dip latitude (D), ground conductivity (σ) and direction of propagation relative to the magnetic NS axis (γ) which are required. Values of γ are omitted from Table I, however, since this particular path is very close to the NS axis over its entire length.

A few points concerning the calculation for the Rome-Tsumeb path are worth mentioning. At Rome the distance to the sea in the direction of propagation is about 30 km, and the transmitter can therefore be regarded as situated on an inland site, assumed to have a conductivity of 15 mS/m. Ground conductivities at the intermediate reflection points and at the receiver were derived from the World conductivity map.[18] The polarisation coupling losses at transmitter and receiver are equal; this is unusual but it arises because the terminals are situated in opposite hemispheres at roughly the same dip latitudes.

Measurements of the Rome transmission were made at Tsumeb in 1971 by the Fernmeldetechnisches Zentralamt (FTZ) of the Deutsche Bundespost. The median field strength measured in June 1971, six hours after sunset at the northernmost ionospheric reflection point, was 37·5 dB relative to 1 μV/m (dBμ). Assuming a transmitter power of 540 kW and an aerial gain, relative to that of a single 0·52λ mast, of 2·3 dB in the direction of Tsumeb, the measured field strength would have been 7·9 dBμ if 1 kW had been radiated from a single 0·52λ mast. The measured field strength therefore exceeds the predicted value by about 7 dB, and the discrepancy would be increased by a further 4 dB if the solar cycle correction for Europe described in Section 5.1 were taken into consideration. The discrepancy may arise because of the presence of sporadic-E layers in equatorial regions; these would tend to reduce both ionospheric and intermediate reflection losses.

4 Comparison of measured and predicted field strengths

About eighty papers and documents which contain information about m.f. propagation at night have been studied

TABLE I

Field-Strength Prediction for Rome-Tsumeb Path

Distance 6740 km Frequency 0·845 MHz	Unattenuated field strength 39·0 dBμ Transmitting aerial 0·52λ mast radiators					
Mode			4E			5E
Hop length, km			1685	–		1348
Radiation angle			2·3°			4·6°
Convergence gain, dB			6·9			4·3
Transmitting aerial correction, dB			2·4			2·3
Field strength without losses, dBμ			48·3			45·6
	D	σ mS/m	Loss dB	*D*	σ mS/m	Loss dB
Ground loss at transmitter	—	15	6·8	—	15	4·0
Polarisation coupling loss	50°	—	2·3	51°	—	2·3
Ionospheric loss (1st hop)	48°	—	4·8	49°	—	4·8
Ground reflection loss	32°	8	3·8	39°	8	8·0
Ionospheric loss (2nd hop)	20°	—	3·3	28°	—	3·6
Ground reflection loss	3°	30	5·6	16°	10	6·8
Ionospheric loss (3rd hop)	−18°	—	3·2	4°	—	3·0
Ground reflection loss	−32°	15	4·8	−15°	15	7·7
Ionospheric loss (4th hop)	−47°	—	4·1	−27°	—	3·6
Ground reflection loss				−38°	15	9·0
Ionospheric loss (5th hop)				−50°	—	5·0
Polarisation coupling loss	−50°	—	2·3	−52°	—	2·3
Ground loss at receiver	—	15	6·8	—	15	4·0
Total loss			47·8			64·1
Field strength, dBμ, for 1 kW radiated		0·5			−18·5	
Predicted field strength	0·6 dBμ					

and a detailed comparison between predicted and measured field strengths has been made. Reliable measurements made over considerable periods for 21 European paths, 26 North American paths, 22 Australian paths, 60 paths between Australia and New Zealand and 35 long-distance paths are available, together with measurements made over shorter periods for Asian and African paths, and for paths from Ascension Island. Extensive measurements have also been made in the USSR. The quantity which is usually measured is the median field strength observed during an hour, or half an hour, centred on a particular time after sunset. As these hourly (or half-hourly) medians vary considerably from night to night, the measured field strength compared with predictions is the value exceeded on 50 per cent of the nights on which measurements were made. Measurements have been standardised to six hours after sunset where necessary and solar activity corrections have been applied to measurements made in temperate latitudes to estimate the values which would be observed at the minimum of the solar cycle.

The measured field strengths for the European paths are the values which were obtained for six hours after sunset when the measurements were subjected to the method of analysis described in Section 5.2. Those for the North American paths[11] were derived by extrapolating regression analyses of the type described in Reference 12 to zero sunspot number; 2·5 dB was then added because the measurements were made two hours after sunset. The 2·5 dB correction was also added to the Australian[13] and New Zealand[14] measurements for the same reason. The Australian measurements were not corrected for solar activity because they were made at sunspot minimum, but the EBU correction for sunspot number 80 was applied to the New Zealand measurements, full details of which were supplied to the BBC by courtesy of the Australian Post Office.

The long-distance measurements include some of the pre-war measurements from which the so-called Cairo curves were derived; they were derived from Reference 15, where 9 dB was subtracted to convert measured quasi-maximum field strengths to median values. No correction was made for solar activity. Results for the long-distance EBU paths are also given in Reference 15. The solar-activity correction was again omitted because it is uncertain what correction, if any, is required for long-distance paths.

Fig. 12 shows histograms of the difference between 152 predicted and measured field strengths. On paths shorter than 3000 km, 84 per cent of the differences are less than 10 dB and on longer paths 66 per cent of the differences come within this range. Some of the larger discrepancies may be caused by uncertainties about effective ground conductivities at transmitting and receiving sites, and at intermediate ground reflection points.

5 Solar-cycle, diurnal and random variations

The wave-hop method described in Section 3 predicts the median field strength six hours after sunset when solar activity is least. The quasi-maximum field strength, or the field strength at some other time of night or point in the solar cycle, may be estimated from the predicted value by means of corrections discussed in this section.

5.1 Solar-cycle variation

Solar activity increases ionospheric absorption loss at m.f. An analysis of measurements made in Europe[15] has shown that, as a consequence, field strengths are reduced by $Rd \times 10^{-4}$ dB, where R is the sunspot number and d is the path length in km. Somewhat greater field-strength variations are observed in North America[16] and Australia,[17] presumably because they are close to the auroral zones. Measurements made on twenty-six North American paths[11] have been analysed by the method described in Reference 12 and the results show that the solar-cycle variation is approximately double that in Europe.

In general it would seem that field strengths estimated for minimum solar activity by the method described in Section 2 should be reduced by KRd dB, where K is a factor which may prove to be a function of distance from the auroral zones. In Europe, for example, K is equal to 10^{-4} and in North America it is about twice this value.

5.2 Diurnal variation

The prediction method described in Section 3 estimates the field strength six hours after sunset. It is well known that m.f. sky-wave field strengths are lower nearer to sunset, and at sunrise.

In order to study the diurnal variation, median field

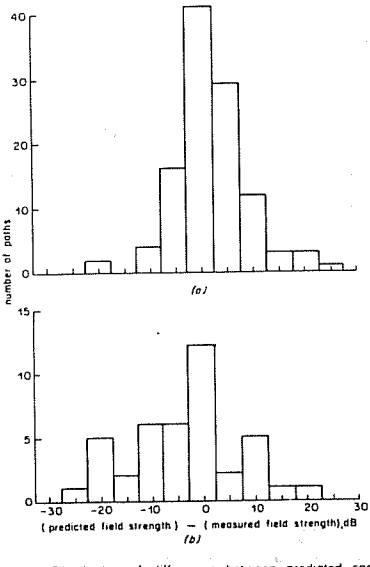

Fig. 12 Distribution of differences between predicted and measured field strengths
(*a*) Paths shorter than 3000km
(*b*) Paths longer than 3000km

strengths measured by the EBU during half-hour periods throughout the night on about twenty European paths were classified by a computer according to the time after sunset, or before sunrise, at which the measurements were made. The EBU correction for solar activity was applied to each individual measurement, and the computer then found the field strengths exceeded for 50 per cent of the time during consecutive half-hour periods after sunset or before sunrise. The diurnal variations obtained on all paths were found to be similar to the average variation shown in Fig. 13. Similar variations have been observed in Australia[13] and India.[14] Fig. 13 also agrees well with variations observed on very long paths, provided the time reference is local time at the hop which controls the onset of night-time propagation, or the commencement of day-time propagation.

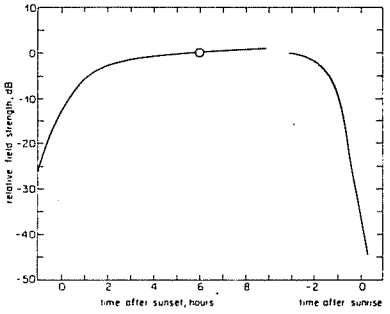

Fig. 13 Diurnal variation
The reference times are the times of sunset and sunrise at sea level

Fig. 13 may be used provisionally to derive field strengths for any time during the night from predictions for six hours after sunset or from measurements made at that time. Detailed study of the results of the computer analysis may reveal some dependence of the diurnal variation on both frequency and time of year.

5.3 Random variation

Medium-frequency ionospheric signals fluctuate because the ionosphere is turbulent. When a single E-layer mode predominates the fading rate is slow,* but when two or more modes of comparable amplitude are present the fading rate is much more rapid.

Considerable variation in the median field strength measured during one hour is observed from night to night because of changing ionospheric conditions. The statistic which is usually quoted is the field strength which is exceeded by the hourly median on 50 per cent of the nights of the year at a stated time after sunset. This is the quantity which is predicted by the wave-hop method described in Section 2.

A knowledge of the amount by which this field strength is exceeded for shorter periods is essential. Sufficient information appears to be available for reliable estimates to be obtained, but this aspect has not yet been studied in detail.

6 Propagation to short distances

The wave-hop method described in Section 2 is intended for distances greater than 500km. It cannot be used for shorter distances in its present form because high radiation angles are beyond the range of validity of many of the curves.

Experience with anti-fading mast radiators suggests that the reflection coefficient of the ionosphere in Europe rises to a maximum value of about −10dB late at night, at all frequencies in the m.f. band. Thus the maximum field strength which is likely to be observed in Europe may be estimated from the unattenuated field strength given in Fig. 2 by subtracting 10dB, the appropriate reflecting layer or layers being determined by reference to Fig. 1(*a*). Actual field strengths may sometimes be much lower than values predicted in this way, especially when reflected waves are about to penetrate the E-layer.

Of the 10dB of residual attenuation, 4–6dB is accounted for by polarisation coupling loss and the remainder is due to ionospheric absorption. In other temperate latitudes the polarisation coupling loss will be similar but the ionospheric absorption may be significantly different. In tropical latitudes, polarisation coupling loss will be low on North–South paths and high on East–West paths unless transmissions are radiated from horizontal aerials, discussed further in the next section.

7 Horizontal transmitting aerials

In the prediction method described in Section 2 the transmitting aerial is assumed to be vertical. Horizontal aerials are sometimes used for short-distance sky-wave broadcasting, however, and their use calls for some modifications to the prediction method which are discussed in this section.

The principal factors which must be taken into consideration are the change in polarisation coupling loss and the effect of finite ground conductivity. Once the wave has entered the ionosphere its propagation is independent of the transmitter which excited it, and no further modifications to the preferred method are required.

In general, horizontal aerials radiate elliptical polarisation and the calculation of polarisation coupling loss is complicated. The calculation is, however, relatively simple in the following situations:

1. At the high angles corresponding to the service area, where the radiation is essentially plane polarised. In European and other temperate latitudes the total coupling loss for both ends of the path will be 4–6dB, as with vertical transmitting aerials. In tropical latitudes the polarisation coupling loss at the transmitting end of the path will be low provided the axes of the horizontal dipoles lie in a magnetic North–South direction; if they lie East–West, however, the coupling loss will be very high.
2. In the 'broadside' directions, where the radiation is horizontally polarised. For low-angle radiation, the polarisation coupling loss at the transmitting end of the path may be derived by adding 1dB to the values shown in Fig. 4 of Reference 19.

* The number of deep fades per hour is about ten times the frequency in MHz.

3. In the 'end-on' directions, where the radiation is vertically polarised and the coupling loss is exactly the same as that calculated for vertical aerials, described in Section 2.6

At low angles the effect of finite ground conductivity and Earth curvature must be taken into consideration. In the 'end-on' directions, finite ground conductivity increases, rather than decreases, the strength of low angle radiation compared with that which would be observed if the ground were perfectly conducting.[19] The effect of Earth curvature has not yet been studied.

Since the prediction method is based on a semi-isotropic transmitting aerial whose e.m.f. is 300 V, curves similar to those of Fig. 10 must be used to correct for the v.r.p.s of horizontal transmitting aerials. Beyond the service area, multi-hop high-angle F-layer modes may predominate because horizontal aerials radiate more strongly at high angles.

8 Discussion

The wave-hop method relies on the calculation of as many of the factors which control m.f. ionospheric propagation as possible. Errors are therefore mainly caused by uncertainty about those factors which cannot be calculated but must be derived from measurement. The principal source of error is lack of knowledge about the variation of ionospheric absorption with latitude and with solar activity. Uncertainty about ground conductivities also leads to errors, especially when low-angle modes are involved.

To obtain more precise information about ionospheric absorption, a detailed comparison of predicted and measured field strengths on paths of about 1000 km needs to be undertaken. If this can be done for as many regions as possible, a world-wide picture of the variation of absorption should result. It may be possible to incorporate this variation in the prediction method, possibly as an ionospheric-loss multiplication factor which depends on geographical location.

Application of the wave-hop method tends to be laborious and time-consuming, especially when long-distance paths are concerned. To facilitate its use it may be desirable to translate it into a computer program, especially as some factors, such as intermediate ground reflection loss, are more conveniently obtained by computation. A disadvantage, however, is that a world map of ground conductivity would have to be stored in the computer, together with less detailed information about the strength and direction of the Earth's magnetic field. An alternative would be to use the method to calculate propagation curves for typical conditions; this approach may be quite satisfactory for distances up to about 3000 km.

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10 Appendix

Ionospheric attenuation of the ordinary wave

It has been shown[20] that the imaginary part χ of the complex refractive index of a wave of any polarisation traversing the lower ionosphere is given by

$$\chi = \frac{XZ}{4(1+RR^*)}\left[\frac{2\sin^2\theta}{1+Z^2} + \frac{(\cos\theta + jR)(\cos\theta - jR^*)}{(1-Y)^2+Z^2} + \frac{(\cos\theta - jR)(\cos\theta + jR^*)}{(1-Y)^2+Z^2}\right] \quad (8)$$

where the asterisk denotes the complex conjugate and the symbols have the usual meanings ascribed to them in the magneto-ionic theory.[21] The rate of attenuation of the wave is described by the equation

$$\frac{dP}{dz} = -2kP\chi \quad (9)$$

where P is the power density of the wave, z is distance in the direction of propagation, $k = 2\pi/\lambda$ and λ is the wave-length

The polarisation of the ordinary wave is given approximately by

$$R = -j\cos\theta \quad (10)$$

if (1) the frequency is close to the gyromagnetic frequency (as at m.f.) and (2) electron-molecule collisions have a negligible effect on polarisation (justified elsewhere[22]).

Equation (10) is exact when $\theta = 0$ and 90° and it may be shown that Equation (8) then simplifies to

$$\chi_0 = \frac{XZ}{2[(1+Y)^2+Z^2]} \text{ when } \theta = 0 \quad (11)$$

$$\chi_{90} = \frac{XZ}{2(1+Z^2)} \text{ when } \theta = 90° \quad (12)$$

If Equations (10), (11) and (12) are substituted in Equation (8) it may be shown that

$$\chi = \frac{\chi_{90}\sin^2\theta + 2\chi_0\cos^2\theta}{1+\cos^2\theta} \quad (13)$$

Equation (13) applies to every point on the path. Since the variation of θ along the path is relatively small in the region where most ionospheric absorption takes place, θ may be assumed to be constant with little error. If Equation (13) is substituted in Equation (9) and then integrated, it may be shown that the total ionospheric loss for any given value of θ is given by

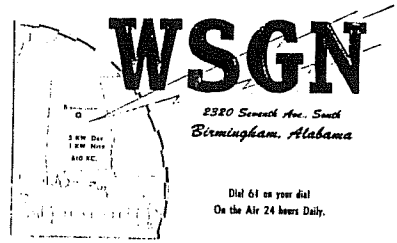
$$L_I = \frac{L_{90}\sin^2\theta - 2L_0\cos^2\theta}{1-\cos^2\theta} \text{ dB} \quad (14)$$

where L_0 and L_{90} are the ionospheric losses in dBs when $\theta = 0$ and 90° respectively.

Reports from far and near.....
The local channels and the clears...in...

Eastern DX Roundup

Karl J. Zuk, 154 Old Post Road North,
Croton-on-Hudson, New York 10520
ALL TIMES ARE EASTERN LOCAL!!
****



REPORTERS IN THIS WEEK'S ISSUE:
A hearty welcome to:

(RB-A-NY) Richard E. Berg-Andersson, 47-11 48th Avenue, #1, Woodside, New York 11377....GE Superadio, Sony ICF-6500W
(JHD-PA) John H. Demmitt, Box A, K0848, Bellefonte, PA 16823 Sony ICF-S5W
(JH-PA) Jim Hall, 240 Byron Road, Pittsburgh, PA 15237 Drake R7A, Loops, Longwires, Beverage.
(RSR-ON) Robert S. Ross, VE3JFC, Box 4373, Station C, London, ON N5W 5J2 New Kenwood TS430S, Panasonic RF1115, Realistic TRF, 20 meter dipole, 4 foot box loop, and built-in antenna on TRF.
(GS-DC) Gardner Smith, W9ALZ, 1000 Perry Street, Washington, DC 20017 DXing all over the East Coast this week on Amtrak! Toshiba F-11
(KZ-NY) Karl J. Zuk, 154 Old Post Road North, Croton-on-Hudson, NY 10520 GE Superadio

****

550 WGNG RI, Pawtucket. 2-25 1545 Poor with ad for concert at Providence Civic Center under much noise and with mild splash from WFIL, 560, Philadelphia, PA, followed by music by The Outlaws (bass of music clear, treble non-existent.) ID at 1550(would have missed it, but DJ said "W-G-N-G" like a Voice Of America announcer doing "special English")(hi!) Thanks, I wish more DJs did that! (RB-A-NY)

560 WJLS WV, Beckley 2- 23 0058 Easy listening music. (GS-Pittsburgh)

590 WROW NY, Albany. 2-25 1535 Strong enough to overcome WMCA, 570, New York, NY, splash. ID as "Light, easy WROW," followed by ad for TV channel 13, and soft rock music. (RB-A-NY)

590 WARM PA, Scranton. 2-25 1525 with soft rock music, fair in WROW's null (above), local news at 1530 with Guy Randall. Occasional splash from local WMCA, 570, New York, NY. (RB-A-NY)

590 WMBS PA, Uniontown. 2-22 2040 High school basketball game. (GS-Big Savage, PA)(You're such a big savage, Smitty!-hi!-kz)

620 WHEN NY, Syracuse. 3-1 0722 Good with ID, Song "Speak To Me When You're Lonely", IDs were very frequent. (JHD-PA)

630 CFCO ON, Chatham. 2-22 2236 Rare here over mess tonight on Beverage, with station contest details. (JH-PA)

640 WWLS OK, Norman. 2-16 0040 Good with ID, C&W music and ads. I thought they were days only!?! (RSR-ON)(Now DA-N-1kW-kz)

640 KFI CA, Los Angeles. 2-19 0150 Very good, with ads ID, station contest, rock music and weather. (RSR-ON)

640 WHLO OH, Akron. 2-18 0846 Good with ad for Nationwide Insurance, weather: sunny with a chance of snow flurries, Time check at 0848 and ID. (JHD-PA)

650 WSM TN, Nashville. 2-18 0835 Good with sports, ad for Bog Spray, and Tennessee Supply, ID, traffic report from a helicopter. Weather was showers with a high of 53 degrees, promo for "The Waking Crew, live." (JHD-PA)

680 WKDJ TN, Memphis. 2-19 1828 Singing ID "WKDJ" into Top 40 music. Fair. (JH-PA)

680 UNID 3-5 0040 Unid monster open carrier with test tones, thundering in like a local. I bet it's WCAW, Charleston, WV, with their 50 kW, non-directional pattern. Another stereo test? (GS-DC)

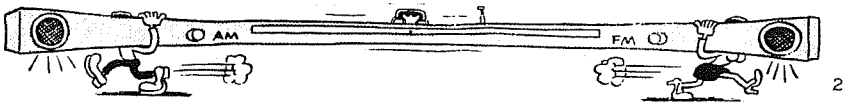
730 WPIT PA, Pittsburgh. 2-15 1555 Good with news, ID, weather, into religious program. 5 kW days. (RSR-ON)

730 WACE MA, Chicopee. 2-26 1120 Poor but understandable signal with religious program. "Focus On The Family" at 1130. ID at 1200 as "This is WACE radio, serving the Springfield-Hartford Christian community."(RB-A-NY)

750 WPDX WV, Clarksburg. 2-18 0813 Fair with song "Mama, Get On Your High Horse," Ad for Hills Clearance Sale. Interference in fades from WSB, Atlanta, GA, and WBMD, Baltimore, MD. (JHD-PA)

770 KOB NM, Albuquerque. 2-18 0250-0315 Fair with "Best Of Larry King Show," ID on hour:"77-KOB", then news, and radar weather for Albuquerque. In WABC, New York, NY, null. State #41+DC!! New. (RSR-ON)

When you read Eastern DX Roundup..you know what band we're pulling for!!!...



Eastern DX Roundup continues.....

Richard E. Berg-Andersson was a victim of the brutal and legendary "attack cats", and sent in two reports before they let him go... Report today..and don't let it happen to you!!!

780 WABS VA, Arlington. 2-25 1745 with sign off, poor to fair. (JH-PA)

790 WAEB PA, Allentown. 2-25 1602 CBS news, followed by local news and weather at 1606. ID as "Lehigh Valley's award winning news and information station" at 1607. Soft rock music thereafter. Weak signal mixed with UNID news station heard under WAEB during music, and much static. Occassional splash from local 770, WABC, New York, NY. UNID under WAEB appeared to be in same general direction from me.(possibly WJW, Cleveland OH. News-Talk per NRC log)(RB-A-PA) (Richard, WJW is on 850, I don't know who has all-news on 790-kz)

790 WNWS FL, South Miami. 2-4 0231 Very good with ID as "79-WNWS", with talk show. Good night for Florida! (RSR-ON)

790 WPIC PA, Sharon. 2-12 1715 Good with ABC sports, ads, and ID. 1 KW days. (RSR-ON)

800 WLAD CT, Danbury. 2-26 1220 Weather for Greater Danbury, followed by ID "WLAD".Rapidly fading, barely understandable under WTMR, Camden, NJ. (RB-A-NY)

800 WTMR NJ, Camden. 2-26 1225 Contemporary Christian music. ID at 1230 as "WTMR, Camden, NJ-Philadelphia, PA, the Delaware Valley's favorite inspirational voice" leading into "20th Century Reformation Hour" with Rev. Dr. Carl McIntire (of pirate radio fame). Less religious than political content. (RB-A-NY)

810 WGY NY, Schenectady. 2-26 1257 Talk show, followed by two ads and a public service announcement over a WGY jingle. Another WGY jingle led to news at 1300 with "accuweather" at 1301. Fair to poor signal at this time of day hampered by splash from WNYC, 830, New York, NY. (RB-A-NY)
+2-18 0230 Very good with testing, tones and IDs. (RSR-ON)

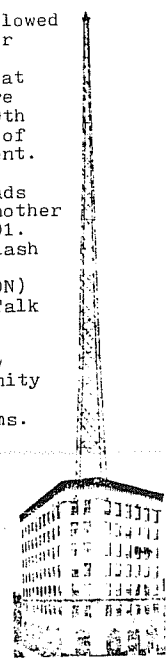
820 WOSU OH, Columbus. 2-18 0750 with NPR's "Morning Edition": Talk and interview of a musical conductor's wirk. ID and weather for Central Ohio. Excellent. (JHD-PA)

820 WBAP TX, Fort Worth-Dallas. 3-1 0645 Good with Ad for Cowboy Hall of Fame, promo for Good Morning Country and Community Events. Temperature was 56 degrees. Farming notes, investment tips. Time check, ID, and news on Tax reforms. (JHD-PA)

830 WNYC NY, New York. 3-3 2159 with sign off. Male announcer gave instructions for listeners to tune to FM. Good. (JHD-PA)

840 WHAS KY, Louisville. 2-17 1500 Good with news, weather, song "What Goes Up". ID as "Radio 84, WHAS"(JHD-PA)

860 WTEL PA, Philadelphia. 2-26 1306 Fair with slight WCBS, 880, New York, NY splash. Male speaking German over "Red River Valley" on organ. German music, ads in German for a German restaurant in Philadelphia, and for Lufthansa, separated by organ playing "Ghost Riders In The Sky," and other popular cowboy country and western type tunes. ID at 1331 in accented voice: "WTEL, Philadelphia" into Spanish music program.(RB-A-NY)



860 CJBC ON, Toronto. 2-17 1740 in French with highlights of a hearing questioning the Solicitor General and the RCMP about a drug scandal. Good to excellent. (JHD-PA)

870 WHCU NY, Ithaca. 2-18 1038 Good with song "My Heart Belongs To Daddy" by Ella Fitzgerald. (JHD-PA)

890 WLS IL, Chicago. 2-18 1043 Good with ID, radar weather: 40% chance of snow, 37 degrees at O'Hare Airport, and ad for 7-11 stores. JHD-PA)

910 WRCQ CT, New Britain. 2-28 1132 in WRKL, New City, NY, null, occassional splash from WCBS, 880, New York, NY, 30 kHz away, (The perils of DXing in a big city)with big band music like "April In Paris." ID at 1142. Very weak, But readable. (RB-A-NY)

910 WSBA PA,York. 2-17 1730 with ad for Rutter Brothers Ice Cream contest, then a sports brief. Rock music. Good. (JHD-PA)

920 KDHL MN, Faribault. 2-6 0020 Very good with local high school basketball scores and ID. Long time, no hear. (RSR-ON)

930 CKNS ON, Espanola. 2-23 0204 with "North Shore Radio Network." Terrible audio, Awful!, sharp and crude.(But it certainly cuts thru QRM!) (GS-Somewhere in Western PA, (I lost track!!)

The legendary column that keeps radios buzzing all over the East Coast.... continues.....

940 CJGX SK, Yorkton. 2-19 0225 Good, with station concert promo into rock music and ID. (RSR-ON)

940 WINE CT, Brookfield. 2-28 1145 In with splash from WPAT, 930, Paterson,NJ, which I couldn't null. Adult contemporary music. ID at 1147 followed by ads and promo for program on "Public Display of Affection." Hmm... Fair copy, lots of interference. (RB-A-NY)

980 WILK PA, Wilkes-Barre. 2-22 2227 (GS-Connellsville, PA)(OK...kz)

1000 WIQT NY, Horseheads. 2-8 1701 Fair with news and ID as "WIQT, AM One Thousand." New. (RSR-ON)

1000 WCFL IL, Chicago. 3-5 0101 with sign off, giving auxillary transmitter calls WJI-28 and WJI-33. Think these bums would sign off when I was in Chicago?? Noooooooo! (GS-DC)

1060 CJRP PQ, Quebec. 2-25 0730 Good, with ID and news of Canada by OM. Sports scores, ID and jingle. In KYW, Phila delphia, PA null. (JHD-PA)

1090 WBAL MD, Baltimore. 2-28 1204 Never logged this during the day at this location. End of local news, weather with Norm Lewis. ID as "Radio Eleven" into ABC Paul Harvey with Bill Beutel, of WABC-TV of NYC fame, subbing at 1206. Fair copy, little interference. (RB-A-NY)

1110 WGHW PA, Norristown. 2-28 1225 with gospel music with YL DJ, ads for evangelist meeting in Coatesville, PA. Very weak signal, fair copy, slight splash from WNEW, 1130, New York, NY. (RB-A-NY)

1110 WSFW NY, Seneca Falls. 3-5 1833 Sign off with SSB. Over/under WBT, Charlotte, NC. (KZ-NY)

1150 WCNX CT, Middletown. 2-28 1242 ID "Robert G. Hall with your favorite music on WCNX." Good signal, fair copy, some splash from WNEW, 1130, NY,NY. (RB-A-NY)

1150 WNDB FL, Daytona Beach. 2-4 0200 Good in CHOC, Hamilton, ON, null. CBS news, local news, ID as "The Pulse Of Daytona, WNDB-1150." Weather followed by talk show. New,1kW, a real surprise!!(RSR-ON)

1200 WOAI TX, San Antonio. 3-1 0620 Good with Ad for Bossey's Flea Market. Two OMs discussed a letter of complaint about WOAI and suggested that listeners turn the dial when they don't like what they hear.Mentioned upcoming programs on weather modification and men's liberation. Weather in the high 70's.(JHD-PA)

1220 WSLM IN, Salem. 2-27 1938+ Fair in WGAR, Cleveland, OH, null, with basketball, "AM 12-20" ID, and then sign off at 2000 mentioning "switch to our FM on 98.9." (JH-PA)

1220 WSCR CT, Hamden. 2-28 1248 with "The Radio Auction" show. Gave phone number as 203-248-???? (a New Haven area number). ID at 1249. Bids taken over the phone began at 1251. Weak signal, poor copy, but I caught ID. One of my better catches, I never expected to bag this one from my QTH. (RB-A-NY)

1230 WBVP PA, Beaver Falls. 2-23 0130 with Black Soul Music. (GS-Beaver Falls) (Always wanted to report from here!! Amtrak leaves the Ohio River and runs up the Beaver River Valley here.)

1290 WGLI NY, Babylon. 2-28 1310 with oldies music. ID at 1313 followed by local ads. Poor, with severe splash from WADO, 1280, New York, NY. (RB-A-NY)(WGLI has the most inefficient use of 5kWs I've ever seen-kz)

1300 WAVZ CT, New Haven. 2-28 1314 with nostalgia music. Slogan is "Waves." ID at 1315. Good. (RB-A-NY)

1310 WEEL VA, Fairfax. 3-4 2150 Rumor from the NRC (who?hi!-KZ) has it that they are now religious and with new calls, WDCT, as of 3-1-85, but not so, not yet. Still bootiful music. This will be fourth format change in two years. (GS-DC)

1320 WKAP PA, Allentown. 2-28 1320 with local ads, including one for a truck wash, followed, at 1323, by a time check and ID. Lots of references to "Lehigh Valley." Nostalgia music. Poor with severe splash from WNYM, 1330, New York, NY. (RB-A-NY)

1340 WMID NJ, Atlantic City. 2-28 1340 Big band nostalgia music like "A Nightingale Sang In Berkeley Square." Poor copy under WNHC, New Haven, CT. and splash from WNYM, 1330, New York, NY. Severe flutter, barely readable. ID at 1347. (RB-A-NY)

1340 WNHC CT, New Haven. 2-28 1330 R&B and soul music. Jingle at 1336,followed by local ads, including one for The New Haven Jazz Festival. Fair copy under severe splash from WNYM, 1330, New York, NY. (RB-A-NY)

RADIO STATION
1000 WATTS 1360 ON YOUR DIAL

KXGI

THE FRIENDLY VOICE OF THE TRI-STATES
STUDIOS
FORT MADISON AND MT. PLEASANT

FORT MADISON, IOWA

TALLEY BROADCASTING COMPANY
HAYWARD L. TALLEY, President
MIKE FINGER, General Manager

And now the final chapter of the continuing story of how static and other good stuff goes east.... EASTERN DX ROUNDUP!!!!

1370 WXXI NY, Rochester. 2-17 1845 Good with assorted folk music from NPR. ID and Flea Bag 454-6300 Pledge phone number. (JHD-PA)
1440 WRRO OH, Warren. 2-17 1830 ID "WRRO" Song "To All The Girls We've Loved Before" and "Solid (as a rock)". Excellent. (JHD-PA)
1450 WTBO MD, Cumberland. 2-22 1945 Tower (with red neon blinking call letters) on low hill in downtown Cumberland alongside Amtrak station. In AM stereo, but a big waste, as tower not nearly as high as Wills mountain, and 8 miles out of Cumberland signal lost to the graveyard mob. Also heard WALI, 1230, and WCBC, 1270, Cumberland, MD in this town. (GS-Cumberland)(Forgive me, but, where is WALI?-kz)
1450 WDAD PA, Indiana. 2-19 1725 Fair with weather, sports, ads and ID. (RSR-ON
1520 WTRI MD, Brunswick. 2-22 1744 This town on the B&O railroad, 5 miles down The Potomac River from Harper's Ferry. (GS-Brunswick, MD)
1540 WZAL GA, McDonough. 2-25 0101 Test, as announced. Very poor here, only heard bits and pieces of ID. Location and address given for reception reports. 500 to 1000 hz tones cut through nicely though. (JH-PA)
1550 WAAY AL, Huntsville. 2-3 0410 Very good with "Hit Radio WAAY" ID and rock music. Pounding in! (RSR-ON)
1550 WXVA WV, Charlestown. 2-6 0055 Good with C&W music, ID on the hour. In CBE, Windsor, ON, null. (RSR-ON)
1570 WTOW MD, Towson. 2-12 1727 ID with request for listeners to tell their friends to tune to WTOW, 1570 on the dial. Excellent. (JHD-PA)
1570 CFOR ON, Orilla.3-5 1830 with "Back To The Bible" broadcast, tonight on early because of Maple Leafs Hockey coverage at 1915. C&W music at 1900, after ID. Good. (KZ-NY)
1580 WTYO NJ, Hammonton. 2-22 1800 (GS-Harpers Ferry, WV)
1590 WJSO TN, Jonesboro. 2-18 0130 Very good with equipment tests, ID, station data and tones. In WAKR, Akron, OH, null. New. (RSR-ON)
1600 WHVL NC, Hendersonville. 2-23 0600 with sign on. Fair. (RSR-ON)
1621 KPF-941 NY, Yonkers. 3-3 2235 Good, on 1621, with various music, but never played full cuts. Are they relaying now? Sounded like a BCB station's engineering test, with music. Are they legally on? (JH-PA)(Sounds like they are playing games-kz)

****

Authentic logos via Gardner Smith. I'm running out, Smitty! Send more!!! I also ran out of the EDXR logo you made up. Robert Ross really likes his new Kenwood TS430S, and built a 4 foot box loop to go with it. He now has 676 BCB stations, closing in on the big 700! Jim Hall reports that the TAs have been so strong, they've been blotting out biggies like WKBW, 1520, Buffal NY and WPTR, 1540, Albany, NY. Pretty amazing what a Beverage can do, Jim. I wish I had room for one! Also a great big welcome to Richard E. Berg-Andersson, who is really pulling them in. Daytime DX in Woodside, in Queens, N has to be the challenge of the century, and he's fairing very well. Keep reporting, Richard! (I'll call off the cats!) Also, thanks to another regular, John Demmitt. Send in your tips today before the cats get YOU! 73s de KJZ.

****

CENTRAL DX ROUNDUP

Robert Kramer
6416 N. Richmon
Chicago, IL 60645

SPECIAL, UNID, CHANGES, et. al.

1000 WCFL IL CHICAGO, noted off entirely 2/5 0112 & w/OC only 0108 2/12 so must have Tues. SP now. KDF-IL
1310 KOKX IA KEOKUK, adds larry King Show. DP-HI
1340 KCNN OK OKLAHOMA CITY, adds larry King show, ex-KXXY. DP-HI
1370 WGNW WI SUSSEX, is off the air indefinately. TN-WI
1540 WZAL GA MCDONOUGH, 2/25 oo59½ fair-poor on DX Test u/KXEL most of the time w/ID & TT. HK-IL, 2/25 o100 fair-poor u/KXEL w/male & female IDs, sweep tones & mx, 0155-0215 w/4 watts. TMJ-IL, 2/25 0100 fair u/KXEL w/ID, TT, mx on DX Test. KDF-IL, 2/25 0112 fair IDs by woman & man, sweep tones on DX. TN

All da Rest

540 WGTO FL CYPRESS GARDENS, 3/1 0100 alone, weak, C&W. GS-IL
570 WAAX AL GADSDEN, 3/2 0510 "Wax Radio", xlnt sig. GS-IL
580 WKTY WI LACROSSE, 2/26 2340 GS-IL
WTCM MI TRAVERSE CITY, 2/24 2305. GS-IL
610 WSGN AL BIRMINGHAM, 2/28 2312 MOYL type mx. GS-IL
640 WWIS OK MOORE, 2/24 2335 perfect copy, C&W mx. GS-IL

30

790 WMC TN MEMPHIS, 3/1 0140 xlnt C&W o/Cuban. GS-IL
800 WKZI IL CASEY, 2/24 1215 "Radio 8 KZI" ID, C&W mx, weak mixing w/CKLW. GS-IL
870 KUUY WY CHEYENNE, 2/20 1918 fair-good w/CBS sports pgm, C&W mx, ads, gone at pattern change, should be pretty easy in the midwest. KDF-IL
910 KGLC OK MIAMI, 2/28 2125 "Super Country" slogan, on top. GS-IL
1030 KHOG AR FARMINGTON, 2/9 1900 fair w/C&W mx, ID, sports o/KCTA. KDF-IL
WXSS TN MEMPHIS, 2/5 1900 good in WBZ null w/ID. KDF-IL
1040 WBZW TN POWELL, 3/3 0700 o/u WHO. GS-IL
1060 WKNG GA TALLAPOOSA, 2/12 1828 poor-fair w/wx closings, s/off SSB on piano. KDF-IL
1100 WLBB GA CARROLLTON, 3/2 0553 clustered ads, C&W. GS-IL (note correct calls, ed.)
KDRY TX ALAMO HEIGHTS, 2/6 1845 fair w/San Antonio Church calendar, mx. KDF-IL
1140 WKZF AL HAZEL GREEN, 3/2 0605 ex-WIXZ, now 50kw. GS-IL
WKWM MI KENTWOOD, 3/1 0553 ID as "KWM". GS-IL
1150 WGGH IL MARION, 2/26 0915 farm tlk. GS-IL
1170 WXLA 3/1 0558 ments. of Capitol City. Location unknown. GS-IL
1180 WLDS IL JACKSONVILLE, 2/27 0935 GS-IL
1360 WGFA IL WATSEKA, 2/25 1110 in WLBK null GS-IL
1520 KMPL MO SIKESTON, 2/28 0612 ID as KMPL/KSTG, farm rpt. GS-IL
1550 WOKJ MS JACKSON 2/27 0015 Black Gospel, fine sig. on top. GS-IL
1560 KKAA SD ABERDEEN, 2/25 0010 C&W mx, xlnt signal. GS-IL
1570 WKYR KY BURKESVILLE, 2/13 1859 fair w/s/off behind WBGZ. KDF-IL
WHLP TN CENTERVILLE, 3/3 0559. GS-IL
CHLO ON ST. THOMAS, 2/25 0001 MOYL. GS-IL
1580 WUIV NC ICARD TOWNSHIP, 3/3 0545 s/on w/choral Rel. mx. GS-IL
WMTL KY LITCHFIELD, s/off 2/26 1728. GS-IL
1600 WXVI AL MONTGOMERY, 2/28 0123 fair-good ID, soul mx. TN-WI
KCRG IA CEDAR RAPIDS, 2/24 1735 xlnt sig. "Stardust 16" slogan. GS-IL
WHVL NC HENDERSONVILLE, 2/9 0559 briefly on top w/ads, ID, pop mx. KDF-IL

A Few that got overlooked :

960 KMA IA SHENANDOAH, 3/3 0635 MoR, xlnt o/WSBT. GS-IL
970 WMAY IL SPRINGFIELD, 2/26 1020 C&W mx. GS-IL
990 WCAZ IL CARTHAGE, 2/26 1010 w/WCFL nulled. GS-IL
1010 KLRA AR LITTLE ROCK, 3/2 0455 "All Hit Country" slogan. GS-IL
1020 WJEP CA OCHLOCKNEE, 3/1 0545 s/on good o/KDKA. GS-IL
WPEO IL PEORIA, 2/26 1000 GS-IL
1240 WEDC IL CHICAGO, 3/1 fair-poor SS pgm, EE ID into WCRW (which was not hrd). TN-WI
1370 WGHN MI GRAND HAVEN, 3/1 1700 fair wx, AM-FM ID into CBS nx. TN-WI
1450 WLEC OH SANDUSKY, 2/28 1753 fair Mutual nx feature, SID. TN-WI
1490 WBMX IL OAK PARK, 3/1 1733 poor ID in mess. TN-WI

Dale Park reports that WRTH-590 has a new address: 7711 Carondelet Ave. Suite 304, Clayton, MO 63105.

DXIN AWAY:

KDF... Karl Forth 2714 N. LeClaire Chicago, IL 60639
(HQ-160, IC-R70, loops, LW)
TMJ... Tom Jasinski 503 Jensen St. Shorewood, IL
(FRG-7, 2½' loop)
RK.... Mike Hogan's younger brother
(R-1000, HQ-129X, Radio West Loop, Kowalski Loop)
TN.... Tim Noonan 7454 West Thurston Circle Milwaukee, WI 53218
(SW-4A, Radio West Loop)
DP.... Dale Park 2253 Kanealii Ave. Honolulu, HI 96813-1345
GS.... Gardner Smith 3015 Western Ave. Park Forest, IL 60466
(Toshiba F-11, internal loop)

SPRING XV

The 15th edition of the annual CADX spring get together will take place over Memorial Day Weekend (May 24-27) There might be some DXing done, although don't count on it unless there is TV-FM skip. The planned events include the annual whiffle ball game on 5/25, possibly some bowling, promo trading, DX discussions & planning for the 1986 CADX DXpedition to the Canadian Northwest Territories. Be there.

WESTERN DX ROUNDUP

Nancy Hardy
2301 Pacific Avenue
Aberdeen, WA 98520

All times are Eastern Local

Phone for hot WDXR tips: (206)532-6827 till 10pm(PLT)

DEADLINES: Tuesdays April 2, April 16, May 7, June 4, July 2

REPORTERS FOR THIS ISSUE:

(WGE) W. George Elliott-544 Christleton Avenue-Kelowna, BC V1Y 5J2
DX-160, FRG-7000, longwire

(BH) Bill Hardy-2301 Pacific Ave.-Aberdeen, WA 98520
FRG-7, SM-1
(BH-WA1) DX'ing at Ocean City State Park, Ocean Shores, WA
FRG-7, SM-1

(NH) Nancy Hardy-2301 Pacific Ave.-Aberdeen, WA 98520
FRG-7 with wedge, Realistic TRF
(NH-WA1) DX'ing at Ocean City State Park, Ocean Shores, WA
FRG-7, SM-1, wedge

(JJ) Jef Jaisun-P.O. Box 92-Bothell, WA 98041
SP-600, Hitachi SR-301, wedge

(DKK) Don Kaskey-465 Burnett St. #1-San Francisco, CA 94131
HQ-140X, SM-2

(ASL) Albert Lobel-P.O. Box 26762-San Diego, CA 92126

(RHM) Roy H. Millar-13714 30th Ave. NW-Marysville, WA 98270
FRG-7 w/Sanserino amp. loop; Airline 3980 w/R. West "Shotgun"

(DP) Dale Park-2253 Kanealii Ave.-Honolulu, HI 96813
(DP-HI5) DX'ing from Kailua Beach Park, HI
TRF

(bp) Bruce Portzer-6546 19 Avenue NE-Seattle, WA 98115
HQ-180A, 4' loop

(RW) Robert Wien-1309 Dentwood Dr.-San Jose, CA 95118
GE Superadio, GE long-range portable, SM-2

****

OF SPECIAL INTEREST:

1230 KBOV CA, Bishop 3/4 0930 o/mess w/ID into Paul Harvey. Still in as late as 1025. Call change, ex-KIBS. Switched format on AM to contemporary & not EZL as I reported earlier, though they were C&W when I heard them last night! Changed calls 3/1, per call. S/on is 0800, s/off 0300. (RW-CA)

?KBOV?+3/4 0000 "KBOV" ID over din. Thought this was Bishop, CA, ex-KIBS, but on 3/8 0257 heard s/off w/definite "KIBS" ID! Unless they just forgot to change the ID on the s/off tape? 3/4 ID could also be KDOV, Talent, OR. (DKK-CA)

1270 KORY NV, Sparks-Reno per call to KORY, will change calls to KPLY on 3/15. Currently unsure if they'll change format or not. (RW-CA)

1450 KEED OR, Eugene per call to KEED, will become KRXX ("K-Rocks"), and KEED will move to 1600 kHz (ex-KASH) "about April 1." (RW-CA)

1490 KGHO WA, Hoquiam-Aberdeen 3/8 I put 1560 on to listen to KGHO. They weren't there, which is not unusual of late. I started down the dial & heard a LOUD station on 1490. ID at 1930 confirmed my suspicions--KGHO had moved to 1490 from 1560. I called KGHO & they said they'd moved the day before. Also I was told "In about a week we'll be 24 hours." (NH-WA)

+3/8 2049 first noted here, ex-1560, w/s/off still saying "1560"! 3/9 2053 s/off had been changed to say "1490." Format still MOR oldies from 1956-1983, via satellite. Hourly ID's and twice-hourly weather reports say "24 hours a day," but they are still a daytimer till the FCC approves their signal measurements. My closest local at ½ mile. (BH-WA)

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530 WNAD556 CA, Coronado 3/4 0027 heard u/lots of QRN. In null of LAX TIS A definite ID was heard following a 3-second tone. Tone was followed by same type of information described by TRH in Vol. #21. My QTH is about 30 miles northeast of Coronado. (ASL-CA)

TIS CA, Los Angeles 3/4 0010 heard as always in the past while trying for new TIS in nearby Coronado. (ASL-CA)

550 KOY AZ, Phoenix 3/4 0045 w/old radio program. Could not tell what program due to QRN. One problem; use of new commercials ruins old radio programs; take it from a collector of same. Those ol commercials didn't insult your intelligence let alone the intelligence of an amoeba. (ASL-CA)

550 KMVI HI, Wailuku per station they moved from Kahului to Wailuku; new address is 250 Waiehu Beach Road, Wailuku 96793. (DP-HI)

560 KSFO CA, San Francisco MM 3/4 0344 noted on w/new all night program. Had been SP MM 0300-0730. Sounds regular, BLEAAH! (DKK-CA)

570 KIPO HI, Lihue stn finally has a house number; they're at 4231 Ahukini Road, Lihue 96766. (DP-HI)

590 KTHO CA, So. Lake Tahoe 3/6 0405-0430 w/pop mx o/u KLSN. Has been carrying Larry King. May have been because of heavy snow fall in mountains as extended snow report heard 0425-0432. (DKK-CA)

KID ID, Idaho Falls 3/4 0100 w/CBS News. Local phone number followed by light pop music. (ASL-CA)

WRTH IL, Wood River-Clayton address in NRC Log is wrong; it's actually Aragon Place, 7711 Carondelet, Suite 304, Clayton, MO 63105. (DP-HI)

KSUB UT, Cedar City 3/10 PSA, ID at 2252½, mx, another ID at 2300 into CBS nx. Poor to fair. Bill was trying for KLSN, Spokane, which he needs--and got this that I needed. (NH-WA1)

KLSN WA, Spokane 2/25 2200-2204 ex-KHQ good w/ID by male, "This is 59, K-L-S-N in Spokane, WA." Into NBC nx. Their FM stn (on cable in Penticton) changed call around Christmas so I'm sad to see this 3-letter call go. (WGE-BC)

600 KLZZ CA, San Diego 3/4 0115 interview w/star of Magnum P.I. TV show. (ASL-CA)

CJOR BC, Vancouver 3/4 0120 in null of my local KLZZ. With ID and MOR music. (ASL-CA)

610 KFRC CA, San Francisco 3/4 0125 w/show about emotions. Then talk show on same subject. (ASL-CA)

620 KIPA HI, Hilo stn has moved from old converted church basement (shades of KPPC!) to Big Island Insurance Bldg., 688 Kinoole St., Hilo 96720. (DP-HI)

630 KIDO ID, Boise 3/4 0135 w/MYL format and ID. (ASL-CA)

KOH NV, Reno 3/4 0135 w/something about Reno u/a much stronger KIDO. (ASL-CA)

640 KFI CA, Los Angeles 3/7 2358 fair w/woman DJ w/wx; blip ID; C&W mx by Sheena Easton. KORL-650 slop. (DP-HI5)

650 KORL HI, Honolulu 3/4 0145 w/ID and MYL mx. (ASL-CA)

670 (KBOI) ID, Boise 3/4 0317 totally off, Cuban/WMAQ mix. (RW-CA)
+MM 3/4 noted off 0345-0405+, occasional OC & TT, leaving WMAQ and Cuban mixing. Absolutely no trace of KWNK. (DKK-CA)

690 XETRA BCN, Tijuana 3/4 0150 someone in either DXM or DXN said this one had changed formats. They're still using a format of mx from the 50's to the 70's w/a slight mix of the 80's. Who said it? (ASL-CA)

710 (KIRO) WA, Seattle 2/25 0506 noted totally off. KMPC all alone yet poor. (WGE-BC)

730 ?KURL? MT, Billings 3/9 1958½ pretty sure I heard "KURL" mention before wx, mx at 2000. At 1003½ "Christian..." and "C.C. U.S.A." Fair, but quickly faded u/CKLG. Does this sound like KURL J. Johnson? (NH-WA)

740 KBRT CA, Avalon 3/6 0900 s/on blasting in on car rx, no sign of KCBS! (bp-WA)

760 KGU HI, Honolulu hosted "Larry King Show" Feb. 18-22; guests included Gov. Ariyoshi, Mayor Easi, Don Ho (who? hi), Kay Starr, Leroy Neimann, and survivors of the Pearl Harbor attack. I attended the wrap-up session (I got to heckle Allan Carr!); King remarked the turnout was the best he ever had at a remote. New address is Wailuku Trade Center, 2255 Kuhio Ave., Suite 1201, Honolulu 96815. (DP-HI)

780 KROW NV, Reno 3/5 0003 C&W mx, Gaelic PSA for St. Mary's Hospice Shamrock Skate-a-thon co-sponsored by "The Big 78," Tanya Tucker mx, promo for DJ Mike Casper. Fair to poor. (DP-HI5)

810 *KTBI* WA, Ephrata 3/7 Th 0300-0625 (at least) intermittent ET w/500 hz TT's. Called to verify. No ID's. Tweaking "positive peaks," per stn guy (not the CE). Signal max overrides KGO's! At 0629 started playing slow choral relig. mx, totally blotting out KGO, and unnullable. Gak! 0635 full ID AM&FM w/ment. of ET, and apparent s/off. (JJ-WA)

870 CKIR BC, Invermere 2/24 0403-0413 good to excellent w/wx forecast followed by PSA for comm. bulletin board annct rates. ID by male "...Right here on the Columbia-Shuswap Network." Into what sounded like automated MOR. With this call they could still be using "Big R Country Radio" ID's although not sure. New.(WGE-BC)

970 KLHT WA, Spokane 2/25 1924-1936 ex-KREM good w/QRN. Light rock/ adult contemporary mx w/ID by male at bottom of hour as "This is K-L-H-T, Spokane. 37° at K-Light 97." Back to mx. Have tried all weekend for this call. (WGE-BC)

1030 KHWY CA, Folsom 3/4 0600 ID as testing, continued w/music. (RHM-WA)

1040 KIFH HI, Honolulu per station, they no longer share space w/KPOI-FM awaiting new ownership. New address is 681 S. King St. Suite 200, Honolulu 96813. They air "Pat Boone Show" Saturdays 2300-0000EST and Sundays 2130-2230EST. (DP-HI)

1060 KAMA TX, El Paso 3/5 0820-0830 cutting KPAY/KUKQ to pieces w/Spanish mx & talk. Good "Radio Kah-ma" ID at 0824 while solid atop. I'd forgotten about this stn & stumbled on it by accident. (DKK-CA)

CJAM AB, Calgary 3/4 0543 nicely on top w/ID "Calgary's own, AM106," o/KUKQ & KRSP. (RW-CA)

1080 KVNI ID, Coeur d'Alene 2/24 2005-2012 poor w/USFL & NBA scores, Coeur d'Alene area wx forecast. ID heard as "Currently at K-V-N-_ studios it's __ degrees." Into adult contemporary mx. New. (WGE-BC)

1110 KISD WA, Oak Harbor 3/6 finally logged after much trying. Poor at 0943 in partial KBND null, real estate ad saying "When your orders bring you to Whidbey..." (hi Charles Taylor!) Talk by YL 0945, then weather mentioning Oak Harbor, AdCon song by the Cars. 0949½ nice "KISD" by YL, two local ads, one mentioning KISD twice. Next song country-ish, but AdCon after that. Good atop in time for nice legal ID 1000 & into APR nx. (BH-WA)

1130 KLEI HI, Kailua 3/4 1300 noted w/weaker signal, level w/KUAI-720. Per DJ, some insulation blew so they are operating at 1kw while awaiting a new xmtr, and AM stereo is a distant possibility. Fair. (DP-HI)

1160 KSL UT, Salt Lake City 3/8 0016 stocks & wx, ID, ad for Utah Fruit Fest, sports. Poor w/KLEI-1130 & KOHO-1170 QRM. (DP-HI5)

1190 KEX OR, Portland 3/8 0018 very poor w/True Value Hardware ad, OSU at UCLA basketball game. KOHO-1170 QRM. (DP-HI5)

1200 WOAI TX, San Antonio 3/8 0019 Evangelist program w/Hurst TX address. Poor w/white noise QRN. (DP-HI5)

1220 KCCS OR, Salem 2/25 2045-2047 poor w/PSA by YL inviting us to join her for an evening of spiritual mx. She ended w/"Right here on K-C-C-S." Then gone. New. (WGE-BC)

1230 KLAV NV, Las Vegas 3/4 0242 noted carrying "Dr. Demento" program. 3/4 1023 still in this late w/Las Vegas nx, 50 minutes after San Jose sunrise. They must be running 1kw nights. (RW-CA)

1260?*KFGQ*? IA, Boone 3/4 0200-0203 tent. on f/c w/1kHz TT, ended promptly at 0203 well u/CFRN/KGIL w/KOIT nulled. Hrd same tone 1st MM last month, TT also ended about this time! However, KFGQ's f/c supposedly is mx only per list. Tried calling station today but no answer, will try tomorrow! (RW-CA)

1280 KKAL CA, Arroyo Grande 3/8 0023 ad for Gilly's camping supplies store in Arroyo Grande, ad for "Lifestyles '85" at Santa Maria county fairgrounds. First mainlander in '85! But what's the new callsign? Poor w/KNDI-1270, white noise static. (DP-HI5)

1310 KFYI CA, Oakland 3/8 0021 State Farm ad, ID "this is all news 1310 KFYI," headlines, Lucky's supermarket ad, nx. Poor. (DP-HI5)

1340 KKBK NM, Aztec-Farmington-Bloomfield 3/4 0330 noted w/blip ID way u/KRAM/KMAK, w/mess somewhat nulled. Back into MCRN. First time on RS, heard/verified on f/c. (RW-CA)

1350 KCKC CA, San Bernardino 3/10 2051½ atop w/C&W mx, contest, community calendar, local ads, more C&W, several KCKC mentions. New. (BH&NH-WA1)

1360 KRKK WY, Rock Springs 3/4 running AN this MM, NSP? 1360 had been one of the better MM channels to DX on here in the Pacific Northwest (RHM-WA)

1380 KBAE WA, Everett 2/24 0439-0455 ex-KRKO excellent w/Night Time Americ program on wrestling. Into satellite mx at 0445. Local ID by mal at end of ad break as "You're listening to Night Time America or Washington state's first radio station, 13-80 K-B-A-E, Everett.' This new call was too easy!!! (WGE-BC)

1480 KPHX AZ, Phoenix 3/4 0443 noted atop w/fine signal in Spanish. KWUN must have been off. (DKK-CA)

+3/11 0400 nice EE ID by YL, followed by SS ID by man, and ranchera mx. Atop channel w/average signal, unID TT also in. Much wanted, & glad to log it before local KGHO-1490 goes 24 hours! (BH&NH-WA1)

1510 KNSE CA, Ontario 2/28 0932 appeared above KGA w/Mexican mx & several mentions of S. Calif. locations at 0935. Took a lot of trying to finally snag this one, thanks to KHTT-1500 horrid slop. (DKK)
1540 KLSY WA, Bellevue 2/24 2111-2120 good, ex-KJZZ, w/continuous (automated?) mx. Car stereo dealer spot followed by PSA for U. of W's Coach Don James Show "...each weeknight at 6:05 on K-L-S-Y. The Don James Show on Classy." SID then more mx. Another call change. (WGE-BC)
1570 CKLQ MB, Brandon per call to CKLQ, they won't change to 880 kHz until "sometime in July." Still need 'em on 1570, so I'm in no hurry, hi. (RW-CA)

March f/c's heard:
1st MM 0300-0315 KQIK-1230 OR (RW-CA) (DKK-CA)
1st We 0200-0215 KINO-1230 AZ (DKK-CA)

Only two unID's:
1240 3/6 0358 someone w/Larry King here but couldn't make out local ID thru QRM. Never heard King here before, someone just pick him up out here? (DKK-CA)
1410 3/4 0431 unID TT way u/1410 mess, looping east. (RW-CA)

Happy Anniversary IRCA! Thank you to all who sent reports to this apecial anniversary issue WDXR!!! ♡

BEST BETS FOR LATIN AMERICA

Caribbean Islands "Best Bets" for Northeastern USA DXers

Mark Connelly, WA1ION **** 01 FEB 1985

It's been quite a while (about 5 years) since the Kazaross/Connelly/DeLorenzo article entitled "DXing Latin America & the Caribbean" was published. Many changes (in the line-up of medium-wave stations that are heard from that part of the world) have occurred. This brief summary updates the Caribbean Islands portion of the aforementioned article. The Caribbean has been a volatile area, politically as well as in terms of broadcasting developments. The original article still has merit in terms of overall Caribbean-hunting strategies (how to "milk" auroral conditions, advantages of coastal QTH DXing at sunset, etc.). The following list is in a very simple form which can be tacked up on a bulletin board near the receiver.

Country	"Best Bet" Frequencies, kHz
ANGUILLA	1610 690
ANTIGUA	1165 1100 1580 620
BAHAMAS	1540 810
BARBADOS	900 790
BERMUDA	960 (1450/1230/1340 LESS LIKELY)
BRITISH VIRGIN IS.	780
CAYMAN IS.	1555 1205
CUBA	MANY FREQ'S - 570/590/600 ET AL
DOMINICA	595 1210
DOMINICAN REP.	650 830 860 1160 1180 540
GRENADA	535 990?
GUADELOUPE	640
HAITI	1030 1080 1325

JAMAICA	720 770 620 700 580
MARTINIQUE	NOTHING HEARD RECENTLY (1310 POSSIBLE)
MONTSERRAT	885 740
NETHERLANDS ANTILLES	800
PUERTO RICO	580 630
ST. KITTS	825 555
ST. LUCIA	840 660
ST. VINCENT	705
TRINIDAD / TOBAGO	730 610
TURKS & CAICOS	1460
VIRGIN IS. (US)	1000 970

Central America / South America
"Best Bets" for Northeastern USA DXers

Mark Connelly, WA1ION **** 04 FEB 1985

The following listings give the DXer an updated look at the best reception possibilities for countries in Central and South America: this is a companion article to the 01 FEB 1985 article on the Caribbean islands. The late-1979 "DXing Latin America and the Caribbean" article (Kazaross/Connelly/DeLorenzo) is still a useful piece of reading material, although several significant events have obsoleted some of the station information contained therein. In particular, the following developments have had a considerable impact: (1) a trend away from split channels, hastened by today's new breed of synthesised, channelised receivers. The moves of the former Costa Rican splits, of Belize from 834 to 830, and of Haiti from 1035 to 1030 illustrate this trend. Better technical standards in the developing countries will mean fewer unintentional "drifter splits". (2) political turmoil in Grenada and Surinam. Both countries have suffered a reduction in broadcast facilities as a result. (3) increased stateside QRM following FCC deregulation of clear channels, daytime hours, etc.

On a positive note, DXers have accepted the challenges of increased QRM by entering a new age of "DX science". Not since the late '60s/early '70s era has there been so much propagation research; receiver hotrodding; and homebrew construction of antenna tuners, phasers, loops, audio filters and the like. The power of computer technology, both in state-of-the-art receivers (Icom et al) and in design/logging/propagation programs, has been harnessed in the quest for DX. The importance of coastal locations has been acknowledged: Neil Kazaross has singlehandedly shed new light on DX from Africa, north-coast South America (especially Brazil), and the Caribbean.

The following lists should serve to introduce the new generation of DXers to Central America and South America.

****
* C E N T R A L A M E R I C A *
****

Country	"Best Bet" Frequencies, kHz
BELIZE	830
COSTA RICA	530
EL SALVADOR	655
GUATEMALA	640 880

HONDURAS	1365			
MEXICO	900	1570	1050	940
NICARAGUA	750	620	540	
PANAMA	770	825	840	860

****
* SOUTH AMERICA *
****

(* = coastal RX site (e. g. Maine, Cape Cod) + Beverage + aurora + sunset listening suggested)

Country	"Best Bet" Frequencies, kHz
ARGENTINA	870
BOLIVIA	(UNLIKELY, BUT TRY 1020)
BRAZIL	860 1220 1000 1100 1200* 810* 760* 880*
CHILE	(UNLIKELY, BUT TRY 1060 & 1140)
COLOMBIA	MANY FREQ'S - 700/760/810/820/870/1100 ET AL
ECUADOR	735 995 945
FALKLANDS IS.	(536 REPORTED INACTIVE)
FRENCH GUIANA	1070
GUYANA	760 560
PARAGUAY	645 1020
PERU	880 1010 (854 MOVED TO 850 ?)
SURINAM	914 (MOST FORMER STN'S INACTIVE)
URUGUAY	(UNLIKELY, BUT TRY 770 & 850)
VENEZUELA	MANY FREQ'S - 540/670/710/720/750/ 830/1020/1200 ET AL

Rough seas

Pirate radio station finds broadcasting a bit queasy

By LAUREL WENTZ
Crain News Service

BRIGHTLINGSEA, ENGLAND—The hardest part about visiting a pirate radio station bobbing in the choppy North Sea is boarding the lurching pirate ship from a small fishing boat.

In rougher weather it can't be done, explains the 73-year-old fishing boat captain as the visitors he has illegally brought to the ship scale the rope ladder.

The old trawler-cum-pirate ship is the home of Radio Laser 558, broadcasting from international waters 14 miles off the Essex Coast and out of the reach of British authorities.

Although not Europe's first pirate station, Laser is making waves in Europe because its brash aggressiveness, pop music and strong 25,000-kilowatt medium-band signal threaten legal stations, audiences and ad revenue.

After broadcasting commercial-free for five months to build audience and show it could stay afloat in the North Sea, Laser launched a drive for pan-European advertisers on Oct. 1.

By November, eight advertisers were signed up, ranging from USA Today to portable fire extinguishers.

Heard in nine countries in Western Europe, Laser claims 5 million listeners and 20 percent of London's radio audience.

The key to Laser's instant success is the all-music format of Top 40 hits and golden oldies broadcast with the slogan, "Never more than a minute away from the music."

Britain's stodgy radio stations, bound by requirements that restrict the amount of music played, cannot compete and are complaining bitterly about pirate radio.

Aboard Laser, five young American disc jockeys (the sixth is on shore leave) work four-hour shifts in a minuscule studio to keep Laser on the air from 5 a.m. to 1 a.m.

Broadcasting hours are extended on weekends with the Mariner's Hour, when the microphones are turned over to the ship's crew, carpenter, cook, captain and whoever else happens to be around after 1 a.m.

The Laser ship, the N.V. Communicator, sailed to the North Sea last December from Miami with the original six DJs (three have been replaced), recruited in blind job ads.

"Two hours out of Miami, they were all lying on the deck, seasick," says 25-year-old Tim Levensaler, the dark-haired, bearded Laser pirate captain, who sports a gold earring. "It took 21 days to get here."

Then it took until April to get on the air as attempts to secure the antenna with a giant balloon failed.

Finally, two towers that could withstand North Sea gales were built. A satellite link has been added to relay commercials and new music.

"We've been here almost a year without making money," Mr. Levensaler says.

So far, about $2 million has been invested in Laser by its U.S. owner, a company called Eurad.

Keeping the Laser ship and its New York sales office afloat costs about $20,000 a week.

The pirate life is not for everyone. DJs spend as long as four straight months aboard the ship. Bathing is limited to Sunday and Thursday evenings—while the water lasts.

Lately, North Sea storms have prevented the ship from being supplied for a month. Fresh water ran out two weeks ago, ending showers and shaving.

"We drink a lot of beer," says one of the DJs. "You don't really need water."

On weekends, Laser groupies in boats circle the Communicator to catch a glimpse of their favorite DJ. They flood Laser's Grand

(Continued on Page 36)

Central Station P.O. Box in New York with letters.

Even Laser's cook has fans. European housewives send recipes to the Michael Deane recipe club. After trying them, Mr. Deane reports on the air how the meal turned out.

But not everybody is a Laser fan.

Says Peter Baldwin, deputy head of radio at the Independent Broadcast Authority: "We regard them (Laser) as parasites who steal other people's copyright . . . ."

Mr. Baldwin adds that he expects to see authorities prosecute anyone who supports the pirate radio venture, including advertisers.

Laser does not pay the performing rights fees other radio stations are subject to, he says. Also, the pirates are using a frequency allocated to a local BBC station that's to go on the air next year.

A 1967 British law makes it illegal for anyone to support pirate radio stations.

"If a boatman rows out with a package of Corn Flakes, he can be prosecuted," says Mr. Baldwin.

For that reason, Laser claims to be supplied through Spain. And DJs claim to go ashore in Britain only for emergencies, such as the time a drunken substitute captain cut off one of his fingers.

Still, people occasionally go from the shore to the station. Among them are vacation DJs and curious journalists.

"It's incorrect to say we're an illegal radio station," insists Roy Lindau, president of New York-based Music Media International, Laser's worldwide sales representative. "No one has ever been prosecuted for advertising on a pirate station.

Mr. Lindau says Laser is, in reality, legal because the ship is registered in Panama, owned and staffed by Americans and broadcasts from international waters and therefore has no connection with the United Kingdom.

The primary audience is the United Kingdom, Holland, Belgium and northern France, although Laser also reaches parts of Germany, Ireland and Scandinavia.

On the talent front, one popular Laser DJ, Jessie Brandon, is being hired away by Capital Radio, a legal station desperate to compete with Laser.

"It's the American accent," Ms. Brandon says. "The British sound stuffy (on radio). We're informal."

Jessie Brandon begins her own 5 p.m.-to-7 p.m. daily program Jan. 1, if Capital succeeds in persuading the United Kingdom to give her a work permit.

"I suggested the angle of rehabilitating a criminal," she quips.

When not working, the DJs watch a lot of TV, sunbathe on the deck in summer and occasionally have parties and swap food and videocassette movies with Caroline, the only other offshore pirate radio ship, moored several miles away.

A novice Caroline DJ recently hitched a ride on the fishing boat returning to the British coastal town of Brightlingsea from Laser. He had been seasick every moment of his three storm-ridden weeks on Caroline, ending a promising career as a pirate.

"I'm too bloody ill (to go back)," he groaned, collapsed on the deck. "All I want is a decent job in radio where I don't have to go to sea."#

Landlubbers can also be radio pirates in Britain

LONDON—Not all of Britain's radio pirates are at sea.

Land-based pirates operating in the country today range from amateurs broadcasting from their homes on a Sunday afternoon to the sophisticated Radio Jackie, which is on the air 24 hours a day and even publishes an ad rate card.

Jackie has been prosecuted 24 times but is still operating and trying—probably futilely—to become a legal community radio station.

Ethnic Arab, Turkish, Greek and Pakistani pirate stations, broadcasting to London's huge immigrant population, are increasingly popular and profitable.

Offshore, only Laser and Caroline operate as pirate radio ships.

Caroline is a leftover from the 1960s heyday of pirate radio. In those days, half a dozen pirate vessels were moored in the North Sea. The original Caroline sank in 1969. A local seaman recalls that the DJs continued to broadcast until 10 minutes before abandoning ship.

The present Caroline replaced the original several years ago. That vessel appears to have encountered rough sailing of a different sort: Several DJs have quit the shoestring-budgeted operation in recent times, claiming they weren't paid.

The pirates fill a gap left by the 48 legal U.K. radio stations—including four noncommercial BBC stations—that are bound by rigid programing limitations on the amount of music they can play.#

Electronic Media, 12-6-84, via Ernest Cooper

DX WORLDWIDE EAST

EDITOR: Jim Hall, 240 Byron Rd., Pgh., PA 15237

Some nice high-band TA openings so far in March, with 3/4-5 being best. Actually, every night now I've noted at least poor carriers or hets here in Pittsburgh, so I'd suppose there's some good stuff to be heard at a coastal site. Anyone further west looking for TA's? Take note of Gardner Smith's hearing the 1593 German in Chicago. With the Spaniard on 1584 almost always better than the German on a good night I'd suspect there's much more than domestic or Latin DX to be heard in the Midwest, if you're willing to stay up til 0600, the time they're usually at their nightly peak. On a different note, Gardner Smith, the QTH of beacon YWA-516 is Petawawa, ON. I noticed it was reported by NHP in 2/23 WDXR. Speaking of beacons, RAB-1613 Rabinal, Guatemala was in last night (3/9) with good sigs, with its continuous CW identifier.

TRANS-ATLANTIC DX

1467 MONACO, Monte-Carlo - V. str w/shallow fades 0500-0515 3/7 w/man in GG (agrees w/WRTH) until 0514, then "Trans-World Radio" ID w/music-box IS, single pip at 0515. (Hall-PA)

1485 SPAIN - Jumble of SSers here 0525 3/5. Also on 1584, 1602, etc. (Smith-DC)

1503 unID - Classical music (piano) poor but just making it o/slop 0508 3/7, too poor to decide who. Was NOT coming from 1500. (Hall-PA)

1521 SPAIN - 1520 notched but still v. sloppy, tremendous signal still poured in. Man in SS, didn't sound // others. Awful 1000 hz het lurking. This at pd. betw 0530-0600 3/4. (Hall-PA)

1539 SPAIN - 1540 notched nicely, LOUD SS // 1584 = w/WPTR/KXEL! Still an obnoxious 1000 hz het present, pd. betw 0530-0600 3/4. How do these Spain GY's get out so well??!! (Hall-PA)

1557 unIDs - 0500 3/5 man & woman in long conv. (still same 0600) in unID lang. Powerful signal and good audio, some slop from 1560 (worst when WQXR played music). Also 0532 3/7 not as gd as 3/5 but still quite strong. Could'nt get anything on 1206 to see if // France. + 0545 3/8 pr-fr, two men in conv into mx 0555, no pips on hour. (Hall)

1566 unID - Carrier noted many nights w/pr audio at best. One of many high-band unIDs, most I won't ment. Who's most common here? (Hall)

1575 unID - Spain suspected, other high-band TA's booming, 0545 2/5. Still in 0620 but steadily dropping off. (Hall-PA)

1584 SPAIN - More than one graveyarder hrd this night, dominant stn // 1539. Usually best Spain freq., absolutely unbelievable this eve. Only fr at 0330, but great by 0530-0600 3/4 and 3/5. SS talk and T40 and pips at 0600. Back to fair by 0630 but still powerful. Also 0500 3/7 gd, and many other nights. (Hall-PA)

1593 WEST GERMANY, Langenberg - Hrd 2320 3/5 in Martinsburg, WV. 0425 2/23 in Pittsburgh on Amtrack. 2355 2/25 in Chicago. (Smith)

1602 SPAIN, graveyarders - 0530-0600 3/5, heavy 1600 slop despite notch, just enough audio for strong SS to cut through. Didn't sound // to other Spain freqs. (Hall-PA)

1611 t VATICAN, Vatican City - Weak audio, man talking, but too poor to determine lang even if in EE. Anguilla off, good propagation to Euorpe. How well can this one get out? (Hall-PA)

PAN-AMERICAN DX

580 MEXICO, Piedras Negras XEMU - 1025 3/1: Astounding dom. chan with ranchero mx. Terrible stn - 1 song, 6 commercials. Presumed to be on 5 kW daytime power. (Smith-IL)

600 COLOMBIA, Barranquilla HJHJ - 0420 2/25: "R. Libertad" ID, gd o/CMKA with brass-vocal music. (Smith-IL)

655 EL SALVADOR, San Salvador YSS - 1035 3/1: Easy copy. Just as strong in Chicago as in Wash. DC. (Smith-IL)

730 MEXICO, Mexico City XEX - 0442 2/25: R. Festival o/CMKC. (Smith-IL)

730 CUBA, Cacocum CMKC - I want to point out a typo in WRTH '85, which lists CMKC on 720, should be 730! (Smith)

790 CUBA, Unk city - R. Reloj ticker 0640 3/1. (Smith-IL)
+Also 0100 3/5 in Wash. DC completely domirating channel. Bet audience of WNWS is POed. Not listed WRTH '84 or '85. This is one of the superpower CMs Fidel intends to use if R. Marti goes on. It ran 300 kW for a few weeks around 12/10/81, and just reappeared again this week. As R. Marti gears up I bet Fidel is planning a show of force across the band. Other superpower CMs are 1160 (600 kW) and 940 (about the same). Question is, Can they afford the electric bill?? (Smith-DC) (I wonder if "Radio Abraham Lincoln" will appear (DXWW II 6/16/84 DXM)?ed.)

825 ST. KITTS - Radio Paradise w/country gospel mx, old-time rlgn from Rev. Japlin, ID, prayer, NA, 0407 s/off. 3/3. (Demmitt-PA)

830 BELIZE, Belize City - 0220 3/1 xlrt sig o/WCCO w/personal messages to people in remote villages. Rather quaint. (Smith-IL)
+R. Belize 0400 2/28 w/pgm Country Bandwagon, songs like "Somewhere My Love". 0455 Marty Robbins song on slow speed. ID, address, rx in EE by YL, pepeated in SS by man. S/off 0512 after NA. (Demmitt)

930 MEXICO, Ciudad Juarez XEJ - 0242 3/1: "R. Mexicana" IDs. Incredible sigs 59 plus 20 dB. Ranchero music. (Smith-IL)

1025 unID - 0252 3/1. (Smith-IL)

1055 unID - 0313 3/1. (Smith-IL)

1060 MEXICO, Mexico City XERP - 0840 3/1: Fascinating pgm of Mexican Indian communal singing w/strange mx instruments. ID as "Radio Educacion" at 0853, into different mx. XE's as common in Chicago as CM's are in Wash. DC. (AND Pghled.) (Smith-IL)

1180 CUBA, Neuva Gerona CMOD - 0915 3/1: R. Reloj ticker strong u/WHAM. (Smith-IL)

1315 unID - 0255 3/5: Xlnt sig - can hear carrier but no audio, guess OC. (Smith-DC) (I doubt both Dom. Republic and Ecuador both, but no others listed unless one boosted pwr or a new stn is on.ed.)

1375 ST. PIERRE & MIQUELON - Scorching in 2345 2/22. (Smith-Berkeley Springs, WV, on Amtrack)

1520 CUBA, Palma Soriano CMJU - 0501 3/5: IS (music-box chimes). Heavy QRM from WKBW but definately Cuban. "Transmite (2 words) Revolucion". Sd/lk "Radio Bayamo", but listed R. Baracoa. Think it s/off. No. 90 Cuban not counting changes, (no. 136 w/all the changes). (Smith-DC)

1580 MEXICO, Hermosillo XEDM - 0503 2/25: "Grande de Sonora" slogan. strong o/CBJ TTs. (Smith-IL)

1610 ANGUILLA - Caribbean Beacon in EE, ID w/pgmming/freq. info. Program "Worldwide Revival Hour" w/man preaching pwrs of faith. 0259 2/28. (Demmitt-PA)

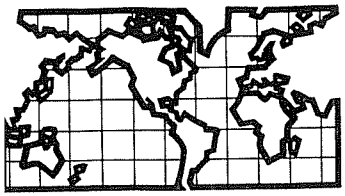
A few notes to add to my TA's - The 1503 thing was hrd again last night (3/10) approx. same time, w/classical/lite mx. Spain was booming in on 1584 and others (like 1521, 1539, 1602) were causing nasty hets w/even chans. And the 1467 Monaco stn was hrd again last night (as well as other nights), but is now confirmed in my records as signing off just after the single pip at 0515. What more could I ask for?

REPORTERS FOR THIS ISSUE

(Demmitt-PA) John H. Demmitt, Box A K0848, Bellefonte, PA 16823 (Sony ICF-55W)

(Smith-DC) or (Smith-IL) Gardner Smith W9ALZ, 1000 Perry St. Washington, DC 20017 (Toshiba F-11) / Gardner Smith W9ALZ, 3015 Western Ave. Park Forest, IL 60466 (Toshiba F-11/internal loop)

(Hall-PA) Jim Hall, 240 Byron Road, Pittsburgh, PA 15237 (R7A, loops, longwires, 1000' unterm. Bev.)



DX WORLDWIDE - WEST

Pat Martin - Editor

P.O. Box 843, Seaside, Oregon 97138

TIME: UTC

DX this week has been on the slow side, with few little to report from this QTH. As usual Richard Wood has some good ones. We also have a report from Steve McGreevy-California with his TAs from a couple weeks back. So on with reports:

TRANS-ATLANTIC DX ROUNDUP

531 UNID, Ez1/3f1 type mx segue into talk by YL in language which sounded like GG. Strong signals but with rapid and deep fades and loud het on TIS's at 0645-0710 fadeout 2/28. (SPM-Ca)

1044 UNID, fair carrier, no audio noted,deep and moderate fading at around 0655 2/28. Prob. the East German. (SPM-Ca)

1053 UNID, just a strong carrier and moderate fading during the 0655 to 0710 period. Too much 1050 slop for any audio 2/28. (SPM-Ca)

1404 GUINEA, Conakry-Radio Guinee at 0559 IS on guitar-type inst. 0600 time signal thru IS, anthem, 0601 Quran, 0610 AR Greeting and into FF discussion of days programs. Reported. (REW-Hi)

1566 UNID, Probably Switzerland, bits of audio which sounded like Yodeling or chanting,but hard to tell 0655 2/28. Pat said he was hearing Switzerland with Yodeling. (SPM-Ca)

1593 UNID, Strong carrier,but no definate audio noted between 0635-0710 2/28. Probably the West German. Unfortunately only was able to use Sony 2002 and a box loop as R-1000 and accessories were not set up yet due to LW DXpedition to Pt. Reyes three days earlier. (SPM-Ca)

1602 UNID, fair carrier but no audio noted, deep and rapid fades, quite good on peaks between 0635-0715. First noted hets on car radio while driving home from work, so not sure how long opening occurred on 2/28. (SPM-Ca) (It sounded like I got the last leg of the opening also. PM)

PAN-AMERICAN DX ROUNDUP

770 PANAMA, Chitre-Radio Nacional de Panama 3/5 at 0515 "Strangers in the Night" into discussion of African geography, time checks for RNP IDs // 1015. (REW-Hi)

800 t MEXICO, Cd. Juarez-XEROK at 0510 in SS on 3/8 with "Chariots of Fire Theme, KKON QRM (DPK-Hi)

860 BRAZIL, Rio de Janeiro-Radio Mundial ZYJ459 3/6 at 0812 tc for "Mundial 5, 12 minutos." Not enough for a report (REW-Hi)

890 ECUADOR, Machala-Radio Superior HCRS6 3/6 at 0503 off after full ID listing 30KW power, said it would return at 0930. This one used to run AN, or may still do on weeks. (REW-Hi)
BRAZIL, Sao Paulo, Radio Gazeta ZYK690 3/6 with pop mx,some PP translations of U.S. Pops, frequent tcs,mentions of a Gazeta (REW-Hi)
VENEZUELA, Valencia Radio America YVLW 3/6 at 0530 ID "Radio America" by female, romantic mx,running AN,not enough for a report o/o Brazil and WLS (REW-Hi)

920 ECUADOR, Machala R.C.O. 3/6 0502 full s/off text. gave calls sounding like HCHM, not HCRU3 as listed for Ondas Orenses, the old name for this station in WRTH 1984, said it would return at 1030. Anthem and off 0503. Often dominates 920 here. (REW-Hi)
PARAGUAY, Asuncion Radio Nacional, La Voz de la Patria ZP1 2/28 at 0900 s/on anthem dull ID,list MW and SW freqs, slogan, into ritmos popilares, 0908 ID, 0909 into Guarani, faded 0912, Reported, Country #66. (REW-Hi)

930 COLOMBIA, Bogota-Radio Continental HJCS 3/6 at 0656 tc "En Todelar, 1:56" WRTH 84 does not show this as being on Todelar list (net) o/u KHJ-Ca. (REW-Hi)

980 BRAZIL, Brasila-Radio Nacional ZYH707 2/28 0859 tcs full ID as "ZYH707" Radio Nacioal, Brasilia, 980 Khz,600KW, a voz mais forte de America Latina, emissora Radiobras" Vitamin ads, jingles,pop mx, Clear.(REW-Hi)

1010 PERU, Lima-Radio America OAX4U 3/6 0550 ID "America, Radio mil Diez, con la mejor musica al instante" Pop mx and romantic mx, Best Peruvian tonight. (REW-Hi)

1070 ARGENTINA, Buenos Aires-Radio El Mundo LR1 3/5 0420 finally IDed this one, one of my most wanted several IDs as "LR1" and others as "El El Mundo, 0500 tc o/u KHX (REW-Hi)

1190 ARGENTINA, Buenos Aires-Radio America LR9 3/6 0830 ID "LR9 Radio America, la emisora..." u/o KEX (REW-Hi)

1290 MEXICO, Mazatlan,Sin. La Poderosa NX XENX 3/6 0800 ID "La Poderosa NX con los 10,000 watts de exitos" Again ID 0823 as "La Poderosa NX" Mexican hits o/u KRGV and other U.S. (REW-Hi)

1320 MEXICO, Mazatlan,Sin. La Ranchera de Mazatlan XERJ 0745 rancheras, 0753 full ID. at 0754 full s/off data, stated power as 5,000 watts, 0755 National anthem, off 0758. Two Mazatlan stations in fifteen minutes when I haven't heard that resort city before. (REW-Hi)

1610 ANGUILLA, Caribbean Beacon at 0345 2/26 with apparent ID, then into rel. pgm, Mobile Alabama orig. I believe. Mx on this channel caught my ear ealier but TIS-Chief Joseph Dam was atop most of the time, worked hard on ID thru 0500 s/off time per WRTH,but get no further IDso report will have to wait for another time of reception. This was the first time I've had a trace of this station. (RHM-Wa)

TRANS-PACIFIC DX ROUNDUP

760 HAWAII, Honolulu-KGU-0500 on 2/7, noted testing. (DPK-Hi)

790 HAWAII, Kealakekua-KKON-1014 on 1/28, noted OC instead of SP (DPK-Hi)

1130 HAWAII, Kailua-KLEI, noted weaker signal,level w/KUAI, per DJ they are operating temp. with 1KW, this on 3/4 at 1800. (DPK-Hi)

1420 HAWAII, Honolulu-KCCN at 0330 on 2/5, noted off due to elec. transformer explosion noted off KHVH also, back on at 0352 recheck.(DPK-Hi)

THANKS TO THESE REPORTERS:

SPM-Ca STEVE MCGREEVY-45 Elda Drive-San Rafael, California 94903
Sony 2002, Box loop

RHM-Wa ROY H MILLAR-13714 30th Avenue N.W.-Marysville, Washington 98270
FRG-7, Sanserino amp. loop

DRK-Hi DALE PARK-2253 Kanealii Avenue-Honolulu, Hawaii 96813-1345
TRF at Beach Park (Kailua)

REW-Hi RICHARD E. WOOD P.H.D.-Post Office Box 5074-Hilo, Hawaii 96720
R. 1000, R-71A, 3 Beverages

Krishna radio pleased with response

Deseret News (Salt Lake City)
April 15, 1984
via Jim Hilliker

By Mary Finch
Deseret News religion writer

SPANISH FORK — The couple operating the United States' only Hare Krishna radio station are encouraged by the response they are getting from Utah County residents.

KHQN, AM 1480, a former country-western station, began broadcasting the message of Krishna consciousness in May.

Nanda Wagner, who works at the station with her husband, station manager Jay Wagner, said many local callers have said that, although they have their own religion, they appreciate an Eastern viewpoint being presented in the valley.

"Recently I had two in-person visits," said her husband. One was a family of Seventh-day Adventists from San Diego that was driving through Utah, and was interested in the station's program on vegetarianism.

Another was a local postman, who had been listening to the station as he jumped in and out of his vehicle, said Wagner.

The daytime station broadcasts about 15 hours a day, depending on the time of year. "It's an experimental effort in this country," he said. The religion has a radio station in Italy and a nightly broadcast in Sweden.

"Our programming is quite varied," said Mrs. Wagner. Readings of Vedic texts are interspersed with interviews of vegetarian recipes and philosophy, rary "message music" by groups like the Beatles, America and Seals and Crofts, a vegetarian program, programs on contemporary issues like abortion, and live interviews.

On Sundays the station airs religious programs by various denominations, including "Music and the Spoken Word." A Spanish-language program is featured on Saturdays.

The station is owned by Chris Warden, a Hare Krishna devotee who has a recording studio in Los Angeles and has broadcast under the name of Caru. Members go either by their Krishna names or their original names, "whatever is most comfortable for the people receiving the message," Mrs. Wagner said.

Why Spanish Fork? The answer is simply that the station came on the market the right time at the right price, said Mrs. Wagner. "Chris had been looking for a station for quite awhile."

When the station was turned over to Krishna Consciousness Broadcasting, the Wagners came from the group's Washington, D.C., national office of public affairs to operate it. Warden spends most of his time in Los Angeles.

Free books are sent to listeners who request them. One is the "Bhagavad-gita," the central scripture and philosophy of the Krishna movement. Copies of "The Higher Taste," a book and "Coming Back," a book on reincarnation, are also distributed.

Wagner said they've received some calls from as far away as Salt Lake City. Although the station isn't geared to reach that far, it can be heard, depending on weather.

"A lot call from Provo. We have had a big response from students," he said. The couple has also lectured on the Brigham Young University campus.

"We didn't come here for converts. We wouldn't have bothered coming to a place where people already have their religious convictions."

"Our message is enlightening to people of all faiths."

Wagner said Hare Krishna is based on the Vedas, the "original source book" dating back 5,000 years. The Bhagavad-Gita is the most prominent.

The works were translated to English during the 1960s by A.C. Bhaktivedanta Swami Prabhupada, founder of the International Society for Krishna Consciousness.

One major belief is chanting the name of God. The chant of "Hare Krishna, Hari Krishna, Krishna Krishna, Hare Hare, Hare Rama, Hare Rama, Rama Rama, Hare Hare," is meant to help followers achieve self realization and the love of God.

Members follow a strict vegetarian diet. They eat no meat, fish or eggs but do eat milk products. Wagner said their radio show on vegetarianism has attracted particular interest among Utah County residents.

Men often shave their heads and dress in robes, and both sexes mark their foreheads with clay from the sacred river Ganges. Mrs. Wagner wears a sari, but Wagner wears slacks and shirt during business hours and a normal hairstyle, out of respect for the people he deals with at the station.

Followers do not consume drugs, coffee, tea or cigarettes. And, Wagner said, sex is prohibited outside marriage and permitted between husband and wife only for the purpose of procreation. "That's how we solve the birth control-abortion problem."

The religion operates temples and urban centers in about 220 cities around the world. In rural areas they have "centers of agriculture and cow protection" and they operate about 2[illegible] vegetarian restaurants.

Wagner said most advertisers left the station when it started its new format, but now different businesses are beginning to advertise with it.

IRCA MEMBERSHIP LIST

John M. Adams, 5580 Highway 101 N., Seaside, OR 97138
Michael Addy, 11411 Vista Dr., Fenton, MI 48430
Frank Aden, Jr., 5147 Morris Hill #133, Boise, ID 83706
Jim Albrecht, 3313 N. Weil St., Milwaukee, WI 53212
Eugene S. Allen, 134 Bret Harte Way, Vallejo, CA 94590
Dewaine Anderson, 3630 S.W. Carnes Rd., Roseburg, OR 97470
Stuart Armstrong,1503 Dublin Dr., Silver Spring, MD 20902
John T. Arthur, 15-2700 Kala St., Pahoa, HI 96778
Bruce Bacon, 5330 N. Northwall, Boise, ID 83703
George Baney, 59 Oxford Dr., E. Windsor, NJ 08520
Mike Bates, 16111 Black Oaks Lane, Wayzata, MN 55391
Ray Bauernhuber, 141-12 243rd St., Rosedale, NY 11422
Michael Beall, 1808 Palouse St., Boise, ID 83705
Br. Dennis Bednarz, LeMans Academy, P.O. Box 7, Rolling Prairie, IN 46371
Darryl Belanger, P.O. Box 495, Swan River, MB ROL 1Z0, CANADA
Tim Benko, P.O. Box 125, Lansing, IL 60438-0125
Richard Berg-Anderson, 47-11 48th Ave. #1, Woodside, NY 11377
Marc Bergman, 1120 Hull Pl. #4, Oxnard, CA 93030
Artie Bigley, 1160 Huebner #3502, San Antonio, TX 78230
Michael Bittner, 221-36th St., Manhattan Beach, CA 90266
Mark Bixby, 1627 Highland Dr., Newport Beach, CA 92660
Larry E. Black, R.R. 1, Box 108A, Glenarm, IL 62536
Bill Block, 9307 S.E. Clay, Portland, OR 97216
Rolf Blodorn, Postfach 26, D-3601 Allendorf, W. Germany BRD
Charles Boehnke, P.O. Box 223, Los Gatos, CA 95031
Phil Boersma, 15570 Cleveland, Spring Lake, MI 49465
Vladimir S. Brajsa, 2390 Speyside Dr., Mississauga, ON L5K 1X6, CANADA
Tony D. Bratton, 1614 Chumas Dr., Eau Claire, WI 54701
Walt Breville, P.O. Box 13008, St. Louis, MO 63119
Mike Brooker, 245 Old Forest Hill Rd., Toronto, ON M6C 2H5, CANADA
John Brown, 42 Vassey St., E. Bentleigh, Victoria, 3165 AUSTRALIA
Jeff Brydle, 9017 Langdon Ave #8, Sepulveda, CA 91343
Fred Bstandig, 1851 Linda Rosa Ave., Los Angeles, CA 90041
Lynn Burke, 285 Westwind Dr., Newport News, VA 23602
Ken F. Burns, P.O. Box 13207, San Luis Obispo, CA 93406
Phil Bytheway, 9705 Mary Ave. N.W., Seattle, WA 98117
Jim Caley, 3512 W. Webster, Royal Oak, MI 48072
Chris Campbell, 4037 SE 11th St., Renton, WA 98058
Mark Campbell, 10719 Estate Dr. Boise, ID 83709
Leslie H. Carpenter, 23171 La Vaca, El Toro, CA 92630
George Carter, 1405 Stonegate Dr., Sheridan, WY 82801
Ken Chatterton, RFD #2, Box 44, Mannsville, NY 13661
Donald Chepurna, 40 Rosemount Ave., Waterbury, CT 06710
Herb Childs, 1442-A Walnut #240, Berkeley, CA 94709
Paul E. Choroszy, 184 Temple Ave. #4, Old Orchard Beach, ME 04064
Charles R. Christ, 10122 D'Este Dr., Anaheim, CA 92804
Robert S. Cipriotti, 5446 Van Alden Ave., Tarzana, CA 91356
Derel Claridge, 815 9th St., Nelson, BC V1L 3C1, CANADA
John Clemmer, 4524 7th St., #2303, E. Moline, IL 61244
Allen E. Clingman, 3235 Quesnel Dr., Vancouver, BC V6S 1Z7, CANADA
Bill Coleman, Jr., 114 Circle Dr., Rocky Mount, NC 27801
Joe Coleman, 157 Walton Place, Lansdowne, PA 19050
Clifford Connelly, Jr. 10042 Comanche Ave., Chatsworth, CA 91311
Mark Connelly, 30 William Rd., Billerica, MA 01821
Bob Coomler, 207 E 45th Place, Kennewick, WA 99337
Ernest R. Cooper, 5 Anthony St., Provincetown, MA 02657
Doug Copeland, 408 Ravelston Ave. W., Winnipeg, MB R2C 1W4, CANADA
Richard Corry, "Snug Harbor" Rt. 3, Clay Center, KS 67432
Tim Cronin, 7500 West 111th St. Worth, IL 60482
Wayne M. Cronin, 955 E. Southern #270, Tempe, AZ 85282
Marc Crumpler, 221 Boulder Dr., Antioch, CA 94509
Alan Davidson, 8121 E. Balfour Dr., Tucson, AZ 85710
Quentin R. Davis, 511 1/2 W. Norwood Dr., Clarksville, IN 47130
Dennis D. Dean, 8869 Meadowgate Ct., Dayton, OH 45424
Mike Deckman, 908 N. Arrowhead Ave, Rialto, CA 92376
G. Harley Deleurere, P.O. Box 10, Hendricks, WV 26271-0010
John Demmitt, Box A #KO848 Bellefonte, PA 16823
Robin K. De Santos, 4126 Dundee Ave, Columbus, OH 43227
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