



DX Monitor

Devoted Exclusively to
Broadcast Band DXing

December 21, 1985

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Happy

HOLIDAYS



1985

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Thursday
December 26

DX Test

WSJC-810, Magee, MS, will test with 50 kw nondirectional from 0215 to 0245 EST with test tones, weird music, local and morse code IDs. Send reception reports to Mr. Walter Hearn, CE, WSJC, P.O. Box 426 Magee, MS 39111. Arranged by Chris Bankind for NRC,



EASTERN DX FORUM

RICHARD EVANS

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Deadlines: Saturdays.
This column typed 12/8/85.

Mike Brooker, 245 Old Forest Hill Road, Toronto, Ontario M6C 2H5
Finally got my IRCA Almanac today. The last one I had was the original '79 first edition, so I think it was time to get a new one. It's also time to send away for a new WKTH, which I get every year whether I need one or not. Why have 2 pages been wasted on USFL network listings when that league will be belly up in 1986, and nothing at all for college football and basketball networks? One change in the WHL networks is that after 18 years on KMOX, the St. Louis Blues are now on KKOK-630. I will miss listening to Dan Kelly and Gus "barnburner" Kyle very much as I have virtually grown up with KMOX. I started listening to Blues hockey when I was 9 years old, before I knew anything about DXing. That was back in the late 60's when the Blues made it to the Stanley Cup finals in their first season (only to be blown out by Montreal in 4 straight games). Gus Kyle's "as you look at your KMOX radio dial, the Blues will be moving from left to right" never made much sense to me, as my KP-2200 has a vertical dial. It makes even less sense for those who have digital readout receivers. WNYC must be pretty mad that CFJR is now fulltime on 830. They've only been feuding with WCCO for the last 40 years, and now they have to remain a daytime while a new Canadian station (not too far from New York City either) gets to go full time. CHAM has been on 820 since mid-August. All we need here is another 50 kw C&W station. Country music does very poorly here. CPGM-1320 has never made a dent in the Toronto ratings. CHAM puts out a much stronger signal into the Toronto area than CPGM does. At least the few C&W fans here will have a choice. 1280 has opened up since CHAM moved to 820. I've even coaxed a verie out of WADO on my third attempt to QSL them. For TIS QSL hunters, CPYZ-530, the Lester B. Pearson Airport TIS station sent a verie letter and said that QSL cards will be printed. Address is Lester B. Pearson Airport, Transpots Canada, P. O. Box 6003, Toronto, A.M.F., Ontario L5P 1B5. I count TIS stations as legitimate broadcasters, not utilities, as their programs are aimed at the general public (the definition of "broadcasting" is that it is directed at the general public). Of course, it's a very limited "general public" - people driving to the airport. I'll find the IRCA Almanac a very useful DXing tool despite the USFL networks -- they're always good for winning games of DX Trivia Pursuit. I still know that WOAI-1200 was the flagship for the San Antonio Wings of the World Football League. 73.

Bill Harms, 23 Walden Birch Court, Woodlawn, Maryland 21207

It is time to check in again. DX around here has been poor at best. Not because of propagation, but rather because of my neighbors' TVs which produce incessant TVI. Hopefully things will get better when we move out of this townhouse development. We are looking at a place in the more rural Carroll county west of Baltimore and I am sure there will not be the problem of TVI there as it is here. Also there is a problem with locals on 600, 680, 1090, and 1300 which causes slop to lare portions of the band. Hopefully things will work out. To answer a question from NHP regarding the South Korean jammer against the North Korean clandestine Kugug-ui Moksori or the Voice of National Salvation on 1053. Your description of how it sounds is right on. When I was in Seoul last year it sounded like they played a phase over and over and over again much like an echo or a reverberation. The South uses the same type of jammer on other frequencies that the North broadcasted on (657, 738, 783, 801, 855, etc.). As a result the MW band was a mess from about 590 to 920 and around 1000 to 1100, if the local Seoul stations are included. The jamming was very effective in Seoul on the frequencies that they did jam; however a few MW frequencies and all of the SW frequencies were not jammed. So with a SW radio one could still listen to the North. Outside of the Seoul area it was quite a different matter. South Korean jamming was not as effective. On trips to near Pusan and to the east coast, virtually all of the North Korean stations could be heard without jamming. So the jamming by the South appears to be a Seoul only proposition. I think I have rambled on enough. Let us talk about the time zone issue a bit more. I am still interested in hearing from more of you. 73s.

Ernest Cooper, 5 Anthony Street, Provincetown, Massachusetts 02657

DX Monitor has been arriving generally on the Saturday following its front page date, but this week's came as early as Tuesday! Strange indeed are the ways of the Postal Service. To Karl Zuk: Your "WINK-1360" mentioning Kentucky is WWNK, Cincinnati, ex-WSAI, across the Ohio River from Ky. And here's every good wish to the IRCA and to each of its members for a blessed and merry Christmas, and a Happy, Successful New Year! Hey, Easterners, let's support this column! With only two Forums in the last two issues (11/23 & 11/30) it is fading away! And in the 11/30 issue, I was disappointed to see the new type in the Western DX Forum. It is all but illegible - too small and too faint - please, Ric, go back to your old typewriter which was so neat and readable! (My feelings exactly --rce) Give us older Americans (OM's?) a break! Reports are out to WORL-1270 and WJRO-1590 as new catches become scarce. 1270 is an interesting frequency here now that WSPR has quit AMing. In the wee hours, I've heard CFGT, CUCB, WXYT, WORL, WCBC, WUCO & WTNT. If you need WTSN-NH, they're on til 0210 Sat. & Sun. AMs. WCFL-1000 is silent Tuesday AMs, so tell your 1000 KHz friends to arrange their tests on that day if they want to get out. Those new Canadian assignments in the 820-840 span are little trouble here - CHAM-820 is seldom audible at all; CFJR-830 is fairly strong until they go directional, and CHUR-940 has yet to be heard! WWDC-1260 is suddenly getting in here fairly well in the early hours, even topping WEZE some mornings - looks like Bill Townshend has talked them into playing oldies! Speaking of "Oldies", we play oldies on WOMR-91.9 every weekday afternoon from 1300 to 1700 - Bach, Beethoven, and Brahms, and their friends! I guess you could call our Sousa marches oldies also, since he died in 1932. (Sat. AMs, 11-12). WJRO-1590, MD, was heard 12/4 at 0120-0200 every once in a while as they poked through WETT-MD & WAKR-1590. Larry King is now on WEAN-790 & off WPRO-630; on WEET-590 & off WDLN-1330; off WAVG-970 and on WAKY-790; off WGBS-710 and on WKAT-1360; (WGBS is now SS WAQI); off WKGN-1340 and on WNOX-990, and on WLAQ-1380 CT, & WDOT-1390-VT. Change your IRCA Almanac, p. 88, accordingly. I think the WNEZ-99.3 SC should read "WNEZ", no? So long for now from "Your Old Left-Handed Bandmaster,

Karl J. Zuk, 154 Old Post Road North, Croton-on-Hudson, New York 10520

I have recently sent to our president, Dr. Wood, a set of propositions for the Board of Directors to vote on. Quite briefly, they are to change the club standard from Eastern Local Time to GMT/UTC, to make it mandatory that all technical articles be sent to the technical column editor, and that such technical articles be limited to 1/2 the total pages of any single issue of DX Monitor. Also, the revival of the Antique Radio and restoration column, a club-wide survey to determine if our club wants a computer oriented column or feature, and the needs of the club's computer users. I also proposed an informal survey of the club membership concerning AM stereo, our ideas, preferences, and whether or not we should actively promote one of the two existing systems. Finally, I proposed that we have a simplification of the business end of the club, (i.e., membership dues, and other revenues) and that we should have a yearly financial statement published in DXM stating where all our money came from and where it all went. (It's already in the By-Laws, Karl. See Article V, 2,2.,d. It's in the 3/19/83 DXM.--rce) I would be glad to hear any and all comments you might have on these propositions. (Yes, would you please justify the use of GMT/UTC in the domestic sections of DXM.--rce) Aside from all this political stuff, I have been endlessly on the road lately. I have visited Kansas City, St. Louis, Chicago, Lincoln, Neb., Tallahassee, Fla, Atlanta, and Denver in about a month and a half. The moment of truth was standing in my own bathroom with my wife and saying "where did you get these enormous bars of soap?", compared to the baby-sized ones you get in hotels. Travelling very light, with only a six-transistor portable, I was amazed to see how very different reception is across the country. One thing was certain: Clear channels in the middle of the country, like WLS or KMOX can be heard almost everywhere. The runner up is Cuba, with their megawattlers pounding out signals at the bottom of the band. I heard a lot of Mexicans in Denver. I was working 20 or more hour days usually, so my DX time was limited to the 5 seconds or so it took for me to get into bed and then fall asleep! Thanks for all the support to my column, and everyone else's!

Mike Hardester, P. O. Box 119, North Versailles, Pennsylvania 15132-0119
Greetings. It's been awhile since I sent a forum in to this column, but I'm back east again. I re-joined the Navy last August and despite continuous promises (threats?) of a tour on Okinawa, my orders arrived for the Naval Reserve Center at McKeesport where I'm the Medical Department Representative. I'm really enjoying the area, and while I have the receivers (R-1000 & PRG-7000) set up and fed via two (2) Radio West Active

antennas and the R. West 24" ferrite loop, I've yet to seriously DX: something about working an average 12+ hour day which tends to place DX on a low priority. Regardless, I am looking to an active season and hope to be reporting to the columns as time permits. Being mainly from the Southern California area, I hear rumours of this funny white stuff that drifts in here around this time every year, not to mention I'll have to buy a new thermometer...mine only goes down to 70 degrees which is cold enough, hi! For now, very 73 and best of DX! (Hi Mike, welcome back to FDXF. I didn't think you could stay away very long, hi!--rce)

All Broadcasts Used Same Frequency

Radio World
October 15, 1985

by Floyd Hall

Crestline CA ... DID YOU KNOW THAT ... ?

In the beginning, all broadcast stations operated on one frequency? True! Following the Ship Act of 1912, the U.S. Dept. of Commerce and Labor—as it was known in those days—was directed and empowered to administer the provisions of the Act. After World War I, some experimental work was done with Radio Telephony, and by 1920 or '21, some broadcasting was attempted.

Old Timer

In 1922 the Secretary of Commerce issued an order assigning the wavelength of 360 meters (833 kc/s), for the purpose of transmitting "Important News Items; Entertainment; Lectures; Sermons; and Similar Matter!" Later in 1922 he ordered that two frequencies could be used for the above purpose, namely 750 and 833 kc/s, with minimum power of 500 W, and maximum power of 1000 W.

No specified frequencies

Not until late 1924 did they designate, and allocate, the band from 550-1500 kc/s for broadcast purposes, with power up to 5.0 kW. No specified frequencies were assigned to individual stations at that time.

In 1925 the Fourth National Radio Conference asked for limits on broadcast time, as well as power. Numerous court decisions in this period held that Radio Communication was carried on the Ether, which belonged to no one, and that the Secretary of Commerce had no jurisdiction over radio transmission!

As a result, in '25 and '26, broadcasters began operation, some without license or permit, on any frequency they chose and at any power!

Well, if that happened today, it wouldn't be much worse than it was then. Absolute bedlam and chaos!

President Coolidge urged Congress to do something to remedy the situation, and they passed the Dill-White Radio Act of 1927. This act created the Federal Radio Commission, consisting of seven members, directed to regulate radio communication.

They began almost immediately, with the help of the Department of Com-

merce, to straighten out the mess. They assigned individual stations specific frequencies and power. (This is why many stations in 1928 were shifted in frequency to reduce interference.) The FRC began to hire some engineers about this time!

In 1933 President Roosevelt directed the Secretary of Commerce to create a committee to study all electronic communication. This committee recommended that Congress establish a single agency to regulate all communication—wire or wireless.

The result was the Radio Act of 1934, which created the FCC, since July 11, 1934, until early in 1984, composed of seven members. In 1984 the Commission was reduced to five members.

So much for the legal, and illegal, beginnings of "Wireless" Broadcasting! Having been a part of it all those times, to the present, and with a little more than average engineering expertise, I still never



*The result was
the Radio Act
of 1934, which
created the
FCC.*



set down before my TV set that I don't marvel at these tremendous technologies we have produced in a comparatively short time. In my lifetime, that is!

I've got to end this reminiscence with a short story. Many years ago I was hired for vacation relief at a 50 kW transmitter. The first day I relieved a tall, lanky, Texas kid, and as he was about to walk out the door, I hollered, "What'll I do if this thing blows off the air?" Over his shoulder as he left, he said, "Oh, just call 'em up and tell 'em to come and get it."

Tower in mulch

Now, I've just got time enough to talk a little about station maintenance. Not technical, from an electronic sense, but just general mechanics. What started me off on this is a station I just came from.

Three towers, a large piece of property, a fine transmitter and studio. They were having some intermittent trouble with the DA, so I had the CE take me out to the towers.

I tried to follow this kid, but I lost him from time to time in the weeds. So help me, they were higher than my head. There was no road or track, and no path anywhere. I seriously doubt that anyone had been out there for six or eight months.

About halfway out to the center tower, I fell over a guy anchor, and out of curiosity I parted the weeds and took a look at the anchor rod. This had originally been a 1" steel rod buried in concrete. When I scratched down to the soil level and felt the rod, I would say it was about 3/4" in diameter. It was almost rusted through!

In a lot of tower installations, the anchors were put in, and dirt was graded around them. So, the anchor rod ran through a foot or more of damp earth. Early tower Erectors used to coat these rods with pitch or tar, so they didn't rust where they went through the soil.

Fields such as the one I have just described are allowed to grow up with weeds each year; they die and fall down on the ground and rot, grow up again next spring, etcetera. So, around the anchor rod is a foot of rotten, packed and moist weeds, or mulch.

Speaking of no path out to these towers reminds me of a story a Midwest FCC inspector told me one time. On inspection, everything seemed in order. The maintenance logs were up to date, and nice and neat, with the weekly base current readings carefully noted.

For some reason, he took a notion to go out and read them himself. There was about a foot-and-a-half of snow on the ground, and there had been for a month. There were no tracks or path in the snow, and when he got to the first tower, he couldn't open the gate for the packed snow in front of it!

I've seen a lot of these weed patches, and at times I have refused to work on the antenna until they cut them down. The usual answer you get when you complain about this condition is, "Yeah, I've got to get someone in to cut 'em down." Maybe next year!

Now I contend that a CE's job consists of good housekeeping, all the way from the guy anchors and the weeds to the transmitter room and noise free console post! Old time Chief Engineers in broadcasting stations took pride in the appearance of their entire operation.

WESTERN DX FORUM

EDITOR: RIC HEALD
8539 BELLAMY WAY
SACRAMENTO, CA 95828 USA

1985/6 DEADLINES - WEEKLY ON TUESDAY

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

The topic of time zones for the Roundups first came up on page 1 of the August DXM because some members wish to change the standard we currently use in the domestic sections, Eastern time. Some DX'ers wish we would use local time or GMT, while others prefer to stay with the present method. We had a good discussion about this at the convention in Portland and came up with no consensus. The best idea was to draw up a questionnaire, print it in DXM, and use the results to guide the club officers in any decision to change the time zone standards. Hopefully the questionnaire will appear soon and be sure you voice your opinion. Meanwhile, express your opinion in a forum so that we can discuss the pros and cons of each time standard.

Among the reasons people offered for preferring a time zone: "I keep all my records in local time (or in GMT or Eastern), and it would be confusing for me to convert times if we change," or, "It's confusing for me to convert now." Well, get this: The usually harmonious Hardy household is split on this issue. Nancy keeps her records in local time, AM/PM method, such as 6:49 PM; I keep all my records in Eastern time, 24-hour clock, such as 2149. I already have to convert my times from local time when I write them down, and if Pacific times becomes the WDXR standard, I have to convert a second time when I report to Nancy.

Someone complained that the term "Eastern Local Time" was unknown outside the DX hobby, which is true. Many years ago when it was first proposed to use EDT during the summer instead of reporting in EST year-round, the term "Eastern Time" was proposed but was abandoned because ET also means equipment test. So now you know. How about the abbreviation, NYT, for New York Time? ABC radio and several other networks based in New York use the term NYT on their schedules. But do we really need all these abbreviations? Why not just write "Eastern?" I like the trend in IRCA to use plain English. Sometimes we write "hrd" instead of "heard" to save two spaces, but confuse people in the process. (And WDXF was first to unravel the myriad of abbreviations several years ago-RtH.)

I'll wrap this up next week. 73 and good DX.

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

This WDXF should be on time for the Christmas or New Years issue of DXM so I'll take this opportunity to wish all IRCANs a very Merry Christmas or Happy Chanukah and a Happy New Year. May 1986 be a good year for you in all ways. It should be an interesting DX year. Wonder if Halley's Comet will affect DX in any way.

The loop is back from R. West. The verdict: Nothing wrong with it. Grant thinks it might be the transmission line between the loop and the receiver. I haven't had the chance to check it yet. I'll do that soon and maybe I'll get back to some serious DX. Nancy, remember I warned you last time to look out for an unusually large WDXR report. It's still on the drawing board, but it'll be there some time soon.

Ric, you're in a state of shock that Pat Martin's power company actually sent someone out to check out the line noise in his area? About 12 years ago when I lived in the El Cajon area and we had line noise I contacted SDG&E and they were out within a week and the man found the problem in five minutes. A noisy insulator about 200 yards from my apartment building. Problem was fixed the next day. Power companies sometimes do care. Maybe they don't care very often, but if

you rattle the correct cage you get results. I rattled the cage of the local FCC office who rattled the cage at SDG&E. The main reason I got such good results is that KCBO and KSDO also complained that they were having problems as well. It's surprising though as I wasn't that close to KCBO and KSDO. .about four miles.

Ric, in regard to your technical help with the Solar hot water heater generating noise: If it's still under warranty, complain to the manufacturer. I had a similar problem with my unit a number of years ago and the manufacturer replaced the thermostats and pump motor and noise disappeared. (I'll live with it - warranty has run out, hi-RtH.)

73 and best of DX to all in the new year.

GARY LARSON, 2806 LINCOLN, BURBANK, CA 91504 (818) 843-3344

Been raining here the last few days. probably helping AM conditions some. Thanks to Steve Mittman for the tapes of WLS and KDXU 890, one of which has a mention of me calling in. (Fine, but which station, Gary?-RtH.)

So far haven't heard KNCO 830 - too much QRM from KIEV 870 on car radio, but will try on the Superadio later. No trace yet of KCMJ 1140. (Gary, you must be right under KIEV's towers; 830 is 40 kHz away, plenty of separation - keep trying, KNCO is off at midnight local-RtH.)

Phone Jim Hillikar on 29 November and was informed XETRA 690 was off du to a bad storm then returned to te air off frequency at 675! I tuned in and heard a net on 675 with some audio and it was indeed XETRA. Called them at their toll-free number to inform them.

Drove out to Newhall preparing to run in a 5K run. Tried DX in the car, but under a freeway overpass made DX difficult. Tried later in the day, heard music on 1380 (Barely), KER1 1180 was in fair as was KAFY 550. Even got music on 960. 1230 was poor even with KGFJ running 1 kw. 1470 in fair with no trace of KAVL 610 due to pattern away from Los Angeles.

JH: RW tells me in a letter that 1400 KART is a pest as well as KONE 1450 at his QTH. Thanks RW for the card.

RtH, hope you're pretty well settled at your new QTH. Too bad you're not on at KRAK. (Or KAER, KHWY, K-105, hi-RtH.)

John Clemmer, bear with me regarding my renewal, it'll be sent, hi. 73 this time around.

RICHARD E. WOOD, P.D. BOX 5074, HILD, HI 96720

Congrats to Gerry Thomas on his discovery of a station which may have been on for years but is unlisted in standard references: PJF1 1410 Saba, N.A. Saba is an EE-speaking volcanic island without beaches: Capitol is The Bottom. I hope Gerry will publish the article on his trip soon.

Ric, the new dot-matrix printer is very hard to read, as published in DXM 23 November, and I hope you'll switch back to the typewriter. (New ribbon should have cured problem with this issue-RtH.)

The British DX'ers have finally held a successful DX'pedition to the extreme northwest of Scotland, Cape Wrath, in October. Outstanding results prove that, contrary to general belief, Alaska is possible in the UK and you don't have to be north of the Arctic Circle, in Lapland, to hear KFAX, KPNW, KBRW, KCSY, etc. During the 11 days they were up there, Brazilians were mostly dominant, but when North America came in, most receptions were from the Prairies, West Coast ad Alaska, not from the East Coast. In fact, most NYC'ers and other big Easterners weren't heard. They also had good openings to the Far East, aminly Taiwan (because it remains, in part, on non-Geneva-plan frequencis ending in zero), Africa and parts of South America. Unheard however, were: Hawaii, Australia and New Zealand. But that jibes with my continued non-reception on Europe this season, a big contrast with this time last year.

Only good verie in lately is WFLA 970 Florida for a new state; nice DSL said mine was their first report from Hawaii; guess that station dates back to the '30s.

KDXU's activation on 890 ruins yet another erstwhile clear channel. I used to love to demonstrate WLS as a clear powerhouse to visitors here; no longer so easy. WLW or even WHAM may now be a better display for them. And at least Anguilla 1610 should hold up until the US BCB is extended to 1700. Aloha.

RIC HEALD, 9539 BELLAMY WAY, SACRAMENTO, CA 95828 (916)
386-8677 FREPAID ONLY

Still too busy with the move and Christmas season to really have gotten in any serious DX time. Have been having fun with the regionals an seeing how well I can null the Valley stations. Never occurred to me that nearly all California stations that are directional night beam in a westerly direction, therefore, I'm at a right angle to wat should be downright pests, like Modesto, Stockton, Marysville/Yuba City, but I'm logging all sorts of stuff right on through if not on top. Have been looking for KSMJ's towers - they moved after increasing o 5 kw - and CE there has not been that helpful. Have found KXDA, KGNR and KSAC. The latter is unpainted and unmarked. No need, several other FM towers in he area that far exceed KBAC's tower height. Shades of the old KFAK nighttime tower at Pine & Polk in San Francisco.

Bill, interesting reading your thoughts about time zone usage. Now then, I fall in right between you and Nancy, so to speak, hi. I log everthing in 24-hour time, Pacific zone. 24-hour time keeping is totally uncomplicated and saves a little time when it comes to AM/PM designation. As for converting from one time zone to another, any DX'er who can't do so and fairly instantly shouldn't be DX'ing. I mean it's so simple figuring time in say, Brisbane, Australia. Assuming both countries are on standard time, subtract 6 hours from Pacific and tack on a day. Minus 7 for Japan, minus 4 for New Zealand, and so on. It's just that in a domestic situation such as the Roundups and Forums, GMT is absurd. Whatever we use, we should stick to one standard. Sure it's easy converting GMT/UTC to Pacific, -7 summer, -8 winter, but it's easier (read lazy, hi), to convert from Easern to Pacific. I feel UTC/GMT should remain where it belongs, in te foreign sections of DXM.

Birch is out for the Sacramento area with FM KWOD coming in atop the heap. KWOD is simulcasting with their AM KSMJ 1380 in morning drive with two crazies. My favorites? KRAK and FM KAER came in 7th and 8th respectively. Not bad in a market of 1.1 million.

Hope the earlier problems of me getting acquainted with an Atari writer have been smoothed over for this issue. I'll leave it up to you though: Do you prefer the new computerized flag and banner, or do you prefer the old, more traditional newspaper style flag? It's your column, which reminds me, even if you've never forumed before, it's quick, easy and fun. You don't have to be the world's greatest DX'er (best BS'er helps, hi), remember to keep forums to a maximum of 40 lines, (if you handwrite, please make it LEGIBLE), No long lists of recent catches (those go to the Roundups and DXW columns), and most importantly of all, DOUBLE SPACE. You wouldn't believe how difficult a single-spaced forum is to retype. And this time of year, f you wish to send more than one forum in same envelope to save postage and have forums run concurrently, please feel free to do so.

Hope everyone had a great Christmas and a Happy New Year to y'all. Best of DX in '86 de Rth. .

EASTERN DX ROUNDUP Karl J. Zuk, 154 Old Post Road North,
Croton-on-Hudson, New York 10520

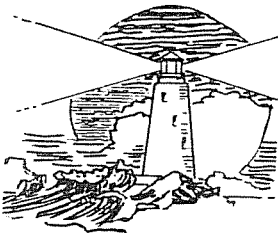
REPORTERS IN THIS WEEK'S ISSUE:

(JHD-PA) John H. Demmitt, Box A, K0848, Bellefonte, PA
16823...Sony ICF-S5W
(RCR-PA) Robert C. Ritchey, R.D.#1, Box 738, East Freedom,
PA 16637...DX-160, 150' longwire.
(JHR-MI) John H. Rose II, 26015 Thomas, Warren, MI 48091
TRF

600 WVAR WV, Richwood. 11-22 0600 SSB, ID "You're

listening to the best in country on WVAR," by man, into music, very good. (RCR-PA)

- 610 CHNC PQ, New Carlisle. 11-15 0652 Poor with weather, ID by man, music.
Heavy mixing with WIP, Philadelphia, PA. (JHD-PA)
620 WSKQ NJ, Newark. 11-15 0712 Fair with man giving time and ID in English.
Music. I detect a Spanish-speaking station here, but very weak and only in
fades, Cuba perhaps. (JHD-PA)(WSKQ is usually Spanish speaking.-kz)
620 WHEN NY, Syracuse. 11-15 0709 Fair with promo for Newswatch with listener's
comments. Man gave ID "Newswatch 620, WHEN." Music. (JHD-PA)



- 640 KFI CA, Los Angeles. 11-12 0619 Poor with male announcer "Here in Los Angeles we are expecting heavy showers.." etc. Lionel Richie's "You are the one." (JHD-PA)
- 680 WPTF NC, Raleigh. 11-15 0720 Good with report on school bus delays and school menus. ID, ad for phone equipment. Talk about exchange students and sports. Time check and ID. (JHD-PA)
- 690 WZAP VA, Bristol. 11-16 0659 Fair with ID by man "This is WZAP, the one to listen to." Bluegrass religious music. Promo for "Open Church Hour." (JHD)
- 690 WNZK MI, Westland. New station on the air with 500 watts omni-directional, except for null to SE to protect CBF in Windsor, ON. Currently only daytime, although licensed for 24 hours. Address: P.O. Box 12369, Detroit, MI, 48212. Phone:313-365-0700. (JHR-MI)(no date or time-kz)
- 730 WACE MA, Chicopee. 11-12 0740 Fair with sports, mobil gasoline ad, plenty of mixing with other stations. (JHD-PA)
- 730 CKAC PQ, Montreal. 11-12 0738 Fair with a comedy recording of a man and a Mickey Mouse sound-alike exchanging one-liners, ID, in French. (JHD-PA)
- 790 CKMW ON, Brampton. 11-15 0729 Good with "Love Song", ID by man, ad for Northwestern, ID "News Radio CKMW" into news. (JHD-PA)
- 820 CHAM ON, Hamilton. 11-12 0735 Fair with ad for Zellars Toys, ID, weather, ID using the word "Cham." C&W record. (JHD-PA) (I seem to be a bit confused about this station. I thought that when it changed frequency, it changed city of license to Burlington, ON, and changed call to CHAN. Would someone in ON please confirm that CHAM is still CHAM and in Hamilton, ON?,tnx-kz)
- 870 WFLO VA, Farmville. 11-12 0728 Fair with promo ID by Tanya Tucker, C&W record, Farm show ad, weather, PSA, Lost and Found. Interference from WHCU, Ithaca, NY and others. (JHD-PA)
- 990 WMMA FL, Orlando. 11-24 1740 Sports promo mentioning Orlando and Central Florida ID "WMMA Magic 99," into music by Lionel Ritchie. New call sign and format, ex-WHOO. Fair to good, I have no record of this call sign change. (RCR-PA)
- 1000 WKBQ NC, Garner. 11-19 1715 Sign off by man, no SSB, Good. (RCR-PA)
- 1060 WFLE KY, Flemingsburg. 11-25 0730 Weather, ID "WFLE", local ad, mention of Flemingsburg, Fair. (RCR-PA)
- 1090 CHRS PQ, Jacques Cartier. 11-14 0600 Sign on in French with "O, Canada" played in slow version. ID, record, interference from WBAL, Baltimore, MD. (JHD-PA)
- 1090 CKKW ON, Kitchener. 11-14 0606 Fair with songs "Come A Little Bit Closer" and "Saving All My Love For You." ID in null of WBAL, Baltimore, MD and CHRS, Longueuil-St.Jean, PQ.(JHD-PA)
- 1200 WKOX MA, Framingham. 11-14 0700 Good with ad for resort area, metro weather, ID, and news. (JHD-PA)
- 1200 WOAI TX, San Antonio. 11-10 0958 Good with male announcer giving two minute ID of the WOAI Communications Center serving the greater San Antonio area. (JHD-PA)(Note time-kz)
- 1360 WMNS NY, Olean. 11-24 1800 Sign off by man, no SSB, good. (RCR-PA)
- 1440 WRRO OH, Warren. 11-14 0715 Fair with record "Put your hand in the hand.." ID. Interference from local source: frying noise. (JHD-PA)
- 1470 CHOW ON, welland. 11-11 0837 Good with sports, ticket giveaway contest, ID McDonald's ad, weather, "Breakfast Show" with "Eric" who played "Don't Ya." (JHD-PA)
- 1500 KSTP MN, St.Paul. 11-18 1736 "Unsung Hero Awards," ID "Talkradio KSTP," briefly over WTOF, Washington, DC. (RCR-PA)(nice-kz)
- 1500 WKXO KY, Berea. 11-11 0843 Poor with ad for furniture store read by male DJ, ID and record. (JHD-PA)
- 1540 CHIN ON, Toronto. 11-11 0847 Program in Italian with ID, music, ad for Franco Italian Airlines, Chrysler ad, telephone conversation with man. (JHD-PA)
- 1540 KXEL IA, Waterloo. 11-11 0851 Good with weather, record by Randy Tracks: "Lonely." (JHD-PA)
- 1550 CBE ON, Windsor. 11-11 0855 Good with Morning Show, interview with author, and ID. (JHD-PA)
- 1550 WCTW IN, New Castle. 11-23 0225 ID "WCTW New Castle," going toe to toe with with WCVL Crawfordsville, IN, playing similar type music, fair. (RCR-PA)
- 1580 WJIK NC, Camp LeJeune. 11-20 0745 Sign on by man, no SSB, Fair. (RCR-PA)

That's all that came in this week! Please write in! Attack cats are zeroing in on your house as you read this! Grr! Thanks to all and welcome to John H. Rose III-kz

KGGF THE VOICE OF THE
 THE MAGIC CIRCLE
 COFFEYVILLE, KANSAS - 67337

KALI 1430 AM
 Radio
 Variedades

CENTRAL DX ROUNDUP

Robert Kramer
6416 N. Richmond
Chicago, IL 60645

SPECIAL, UNDEID, CHANGES, et. al.

- 560 WIND IL CHICAGO, has been hrd in Nov. w/ads advising listeners to tune to WBEM for news/information after switch to SS. KDF-IL
- 890 KDXU UT ST. GEORGE, 11/20 1944 tent. ID here w/light WBS/KQLX QRM. DF-SD, 11/30 0400 w/A1 nx, rck mx, WIS off. JGJ-MT
- 980 KUPT ID IDAHO FALLS, C&W format, 24 hr, SP MM. JGJ-MT
- 1210 KIDI WY LARAMIE, 11/19 1705 w/various TTs. On here, ex-1490 11/25 w/MoR mx, power is 10/1 U2. DF-SD, 12/2 0800 weak w/CBS nx mixed w/KGIN. JGJ-MT
- 1430 KNSP? MN STAPLES, 11/23 1100 somebody here in much QRM ending auction show & gave ID (sounded like an L in it) & gave address in MN. DF-SD
- All da Rest
- 540 KWMT IA FT. DODGE, 11/25 1730 fair in CBK null w/C&W mx & ID. DF-SD
- 560 KWTO MO SPRINGFIELD, 11/10 1900 w/ABC nx, C&W mx, "56 Country KWTO" IDs. JGJ-MT
- 630 KHOW CO DENVER, 11/16 1830 o/KTKK w/oldies rck. JGJ-MT
- CKRC MB WINNIPEG, 11/26 1743 C&W mx, ID, PSA way u/KDWB. DF-SD
- 710 KFIA CA CARMICHAEL, 11/10 1945 w/Christian mx, lost at 1959 power cut. JGJ-MT
- 750 KJEL MO LEBANON, 11/3 1734 good in WSB null w/address & Trivia Contest promo, rel mx. KDF-IL
- 790 CKSO ON SUDBURY, 11/21 1820 xlnt o/WTAR w/R&R mx. TMJ-IL
- 840 CHUR ON NORTH BAY, 11/23 1750 w/"The Music America Falls in Love With", signal equal to WHAS. TMJ-IL
- 860 KNUJ MN NEW ULM, 11/19 1658 poor & alone w/MOR mx & ID. DF-SD
- 870 KAAH MO NEW HAMPTON, 11/25 1735 good in KUUY null, no WML, MO net. nx, lcl nx by OM, no legal ID but much ment. of "can nx". DF-SD
- KORD WA PASCO 11/18 0845 w/KUUY, C&W mx, "870 KORD" IDs. JGJ-MT
- KUUY WY ORCHARD VALLEY, 11/23 1845 w/C&W mx, female DJ, HS sports promos, w/terrible WIS splatter. TMJ-IL
- 880 WCBS NY NEW YORK, 11/17 0330 strong on top 880. JGJ-MT
- 950 KIMN CO DENVER, 11/28 0145 w/T40 mx, promos, good, CFAM testing. NJW-MB
- KLIK MO JEFFERSON CITY, 11/25 1740 o&u KWAT w/oldies rr, ID. DF-SD
- CFAM MB ALTOONA, 11/23 1033 w/lcl spots, wx, fair battling KWAT/KIMN. DF-SD, 11/28 0140-0200 Eting w/OC & TT, xlnt. NJW-MB
- 960 KABL CA OAKLAND, 11/22 0044 on top o CFAC, EZL mx & ID, good. DF-SD
- WELI CT NEW HAVEN, 11/21 2049 phone in tlk show, weak & alone. TMJ-IL
- KNEB NE SCOTTSBLUFF, 11/28 0204 A1 nx, ID by OM, lcl wx, Larry King. NJW-MB
- KNDN NM FARMINGTON, 11/21 1900 s/off good o/KFLN/KSRA/KNEB. DF-SD
- 980 KDSJ SD DEADWOOD, 11/21 1950 poor u/WONE w/wx, lcl spots & basketball game. TMJ-IL, 11/21 2233 poor w/ID thru WONE on what sounded like a HS BKB game. KDF-IL
- 1010 KKGZ CO BRUSH, 11/28 1823 C&W mx, lcl spots, PSA, jx, sports, fair & alone. NJW-MB
- KXEN MO ST. LOUIS, 11/3 1744 poor w/inst. mx, brief s/off. KDF-IL
- 1070 KMCN MN MONTICELLO, 11/18 1738 o/KFDI w/MoR mx, YL ancr, ID, KATQ mull'd. DF-SD
- KHMO MO HANNIBAL, 11/28 C&W mx, 1837 ID as "The All New AM, and Country 98", poor w/WTSO. NJW-MB
- 1080 KWJJ OR PORTLAND, w/C&W mx, apparently the one w/Ae nx 11/25 1936. DF-SD
- 1090 KISC CO AURORA, 11/18 0955 strong during KANN fade, no KBOZ, IDs. JGJ-MT, 11/29 1004 "Information Update from Denver's KISC" by YL, Adcon mx, poor-fair. NJW
- 1130 CKWX BC VANCOUVER, 11/21 2105 w/FST TC, wx, lcl spots & contest. TMJ-IL
- 1150 KCKY AZ COOLIDGE, 11/19 0800 ID about even w/KASM, into nx. DF-SD
- KWKY IA DES MOINES, 0752 apparently the one here, w/rel. then something about Des Moines & I think an ID u/KCKY ID. DF-SD
- KASM MN ALBANY, 11/19 0752 in & out w/spot, farm tlk, ID, CKX mull'd. DF-SD
- 1180 KDAN AZ WILLIAMS, 11/15 1700 u/KERI w/KDAN News Update & C&W mx. JGJ-MT
- KERI CA WASCOS, 11/21 1927 u/KDAN w/ID, C&W mx, poor sigs. DF-SD
- WFGN SC CAFFNEY, 11/29 0702 fair in WJJD splash w/lcl nx. RK-IL TMJ-IL
- 1200 WKOX MA FRAMINGHAM, 11/20 1720, good w/rr mx, wx, lcl spots, no WAGE, WBCE weak.// 11/23 1627 fair w/ID, pop mx, ment. pattern change. KDF-IL
- 1230 KSTC CO STERLING, way o/everything w/ID & lcl spots 11/18 1818. DF-SD
- WKLK MN CLOQUET, 11/26 1657 noted 2 IDs, lcl spot, C&W mx, much QRM. DF-SD
- KMRS MN MORRIS, 11/20 0948 on top w/good sigs, C&W mx, ID, TC, wx. DF-SD
- KWNO IA WYNONA, 11/26 1659 ID noted in heavy QRM. DF-SD
- 1280 KCOB IA NEWTON, 11/26 1709 poor mostly u/UNID, 1 barely readable ID. DF-SD
- 1300 KPTL NV CARSON CITY, 11/15 1830 w/trivia call in show. JGJ-MT
- 1310 KDLS IA PERRY, 11/18 1718 fair-good during KFKA fade w/ID, comm. ancnts. DF-SD
- KRBI MN ST. PETER, 11/18 1717 mixing w/KDLS, no ID but lots of lcl spots. DF-SD

- 1310 KAAM TX DALLAS, broke thru w/ID 11/25 1905. DF-SD
 WIRA WI HADISON, suprised me 11/21 0755 w/ID, lcl info, good during KFKA fades. DF
 1320 WFHR WI WISCONSIN RAPIDS, 11/25 1716 u/KELO & mixing w/KOZY w/ID, wx. DF-SD
 1340 KDEN CO DENVER, 11/28 0230 fighting KXXY w/ID & lcl nx. NJW-MB
 KVRH CO SALIDA, 11/25 1832 ID poor in mess. DF-SD
 KXXY OK OKLAHOMA CITY, 11/28 0230 ID by YL as "KXY", poor w/KDEN. NJW-MB
 1350 KABQ MN ALBUQUERQUE, 11/25 1828 w/SS mx. JGJ-MT
 1360 KLFF AZ GLENDALE, 11/30 1830 weak on top, "K-1ife" & MOYL ment. JGJ-MT
 1370 KLBA IA ALBIA, 11/18 1706 on top w/good sigs, obits & ID. DF-SD
 1390 KCBC LA DIES MOINES, 11/25 1906 good w/much QRM, lcl nx & ID, MOYL type mx. DF-SD
 WRIG WI SCHOFIELD, 11/21 0806 w/KKCM w/nx & ID, fair. DF-SD
 1400 KFTM CO FORT MORGAN, 11/18 1842 well on top w/lcl spots & wx. DF-SD
 KART ID JEROME, 11/28 0838 C&W mx, lcl spots, promo, ID, fair o/mess. NJW-MB
 KVPD IA FORT DODGE, 11/25 1910 ID ending lcl nx, wx, good but heavy QRM. DF-SD
 KTT5 MO SPRINGFIELD, 11/28 0306 C&W mx, ID, poor. NJW-MB
 KXXY UT ORRM, 11/10 1830 Christian mx, "AM 1400". JGJ-MT
 1440 KGLG KS LEAVENWORTH, 11/25 0830 very good, nx, heavy QRM. DF-SD
 KHOL ND BEULAH, 11/26 1830 almost alone w/ID, lcl spots & sports. DF-SD
 1430 KKAQ MN THIEF RIVER FALLS, on top 11/26 1724 w/spot, wx & ID by OM. DF-SD
 KTYN ND MINOT, 11/18 0930 "KBQ 100 & 1430" slmo-FM, Q-Zoo rock pgm. JGJ-MT
 1450 WMBH MO JOPLIN, 11/28 0127 C&W mx, contest promo, ID by OM as "14-50 Country
 WMBH", fair. NJW-MB
 KRBN MT RED LODGE, 12/1 1800 w/CNN Radio nx. JGJ-MT
 1460 KRNY NE KEARNEY, 12/2 0800 on top w/lcl nx. JGJ-MT
 1460 WRAD VA RADFORD, 11/20 1607 fair w/nx & ID. RK-IL
 1490 KQOS WY TORRINGTON, 12/2 0800 on top w/lcl nx then ABC nx. JGJ-MT
 1530 KECK NE LINCOLN, 11/24 1700 w/United Stations nx & lcl nx, C&W mx. JGJ-MT
 CTSV MB WINKLER, 11/24 1745 "V-Country" IDs. JGJ-MT
 1540 KASA AZ PHOENIX, 12/2 0930 strong briefly, rel. pgm, ID "KASA, Casa Radio, home
 of country gospel!" JGJ-MT
 1550 KHEB TX CANYON, 11/29 1831 w/lcl nx & wx, oldies, poor w/KQWB. NJW-MB
 1570 KNDY KS MARYSVILLE, 11/28 1901 s/off, poor w/another s/off. NJW-MB NJW-MB
 1580 KPIK CO COLORADO SPRINGS, 11/29 1006 poor w/SS rel., SS spots or ancmts, EE ID.//
 KNIM MO MARYVILLE, 11/28 1855 brief fade in w/ID by OM, promo, poor. NJW-MB
 KOKB OK BLACKWELL, 11/22 2057 no ID hrd, but lots of Blackwell spots, so it looks
 like this one has night authorization. KDF-IL KDF-IL
 WHHM TN HENDERSON, 11/25 1859 poor w/C&W mx & ID, PSSA or night authorization ?//
 1590 KYDE AR PINE BLUFF, 11/20 2345 good w/soul "The Mighty 1590". ID, WAKR nulled. TMJ
 KDJS MN WILLMAR, 11/25 1704 on top, xint sigs, no KRRK, MN Net. nx, lcl nx, spots,
 much ment. of Willmar & area towns, no ID. DF-SD
 WIXX WI NEW RICHMOND, w/KDJS w/nx & nice ID 11/25 1506. DF-SD
 1600 KLLR MN WALKER, in briefly 11/26 1714 during KLGa fade, lcl spot, possible ID. DF

SOME GOOD STUFF

DF... David Faulkner 124 May St. Lead, SD 57754-1521
 (TRF 12-655, Radio West Loop)
 KDF... Karl Forth 2714 N. LeClaire Chicago, IL 60639
 (HQ-160, IC-R70, loop, LW)
 TMJ... Tom Jasinski 503 Jensen St. Shorewood, IL 60436
 (FRG-7, 2 1/2" loop)
 JGJ... John C. Johnson 501 5th St. West Billings, MT 59101-2831
 (IC-R71A, 50" N-S LW)
 RK... Santa Claus
 (R-1000, HQ-129X, Radio West Loop, Kowalski Loop)
 NJW... Niel Wolfish 31 Southlawn Stroll Winnipeg, MB R3T 5S9

FCC Lists Cuban AMs

Washington DC ... The FCC has updated its list of known Cuban AM broadcast stations.

The list, which is current through 30 September 1985, features calculated locations and operating powers of Cuban stations based on off-the-air measurements.

According to the FCC, in order to determine the existence and level of interference to US AM radio broadcast stations, Cuban stations will be presumed to be operating at locations and powers contained in the list.

The list will also be used to determine whether applicants suffering from Cuban interference would qualify for compensa-

tion, and to what amount, in accordance with the Radio Broadcasting to Cuba Act, the Commission said.

The FCC plans to continue updating the list in the future.

Copies of the Cuban Standard Broadcast List can be examined in Room 246 at the FCC Headquarters, 1919 M Street.

The list can be obtained from International Transcription Service (ITS), 2100 M Street NW, Suite 140, Washington DC 20037, or by calling Wilbur Thomas at 202-857-3800. Mail requests must be accompanied by a \$25 deposit, while credit card orders can be taken over the phone, Thomas said. ITS also offers a subscription service in which customers are automatically mailed list updates.

For more information about the Radio Broadcasting to Cuba Act, contact Louis Stephens at 202-632-7792, or Dennis Williams at 202-632-6485.

Radio World
12-1-85

Can anyone in the Washington DC area get a copy for us? (short of paying \$25, that is....)

KVOW

P.O. BOX 393
RIVERTON, WYOMING

"Gateway to the Great Outdoors"



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: Mon. Dec. 23, Mon. Dec. 30, Tuesdays in January & February

REPORTERS FOR THIS ISSUE:

- (TRH) Tim Hall-350 G St. F-1-Chula Vista, CA 92010
Sony ICF-2010, Radio West loop
- (MH) Mike Hardester-"On the road"
Car radio
- (EH) Ed Hoffman-P.O. Box 125-Burlington, WA 98233
Icom R70, 2' box loop
- (GK) Guy Kudlemeyer-1320 City View #1-Eugene, OR 97402
FRG-7, ferrite core loop, longwire
- (RW) Robert Wien-1309 Dentwood Dr.-San Jose, CA 95118
GE Superadio, GE long-range portable, SM-2
- (ØW) John Wilkins-4385 Hoyt St. #205-Wheat Ridge, CO 80033
R-1000, 4' box loop
- (REW) Richard E. Wood, Ph. D.-P.O. Box 5074-Hilo, HI 96720
Kenwood R-1000, Icom R-71A, 4 Beverages, phasing unit, preamp.
- (JW) Jack Woods-P.O. Box 1003-Waldport, OR 97394
Barlow Wadley XCR-30, Martens loop

***** OF SPECIAL INTEREST:

- 1230 KRSS WA, Spokane 11/26 0314 in briefly w/blip ID. First time heard w/new call, ex-KKER. (EH-WA) (Has been silent for more than a year!--NH)
- *****
- 540 KNAK UT, Delta 9/25 0826 spot for "N. Main in Delta," Butler Insurance, nx for SW Utah; quite good. My first U.S. catch on 540. (REW-HI)
- 560 KVOK AK, Kodiak 11/7 1105 spot for Island Plumbing (Kodiak is on an island), Paul Harvey nx, True Value spot, local nx, time checks. Good, new. (REW-HI)
- 570 CKEK BC, Cranbrook 11/22 0638 fair in KVI null w/ads, "E-K Radio" IDs. (EH-WA)
- 580 WIBW KS, Topeka 9/4 0648 hog market, farm prices; good o/unID Mexican. (REW-HI)
- CKY MB, Winnipeg 11/25 0250 rock mx, only occas. heard thru QRM. "Stereo 58" slogans. WIBW nulled; XEFI QRM. New, MB #10. (ØW)
- 600 KSJB ND, Jamestown 11/29 0534 fair w/ID by YL, TC, and wx. (EH-WA)
- 620 ?KIPA? HI, Hilo presumed the one w/s/off, SSB, 12/6 0502. Looped W/E. Not needed, but rarely heard. (TRH-CA)
- 640 WWLS OK, Moore-Norman-Oklahoma City 9/20 1130 w/promos for Dick Clark's pgm Sundays at 1300-1700; poor selections of "oldies" (i.e. those that weren't); ID promo as "Oklahoma City's new oldies station, W-W-L-S, six-forty," and city ID as "Moore-Norman-Oklahoma City." (MH-OTR)
- 650 KYAK AK, Anchorage 10/30 0323 singing ID "KYAK" o/u KORL. (REW-HI)
- 690 KKUA HI, Honolulu 11/30 0550 good w/mx review, into rock songs.(EH)
- KRCO OR, Prineville-Madras 12/1 0915 good w/nx "Newsbreakers," local PSA, local wx, ID as Prineville-Madras. (JW-OR)
- (XETRA) BCN, Tijuana noted off 12/3 1030-1256 and 12/6 0615-0625. (TRH)
- 700 KFAM UT, North Salt Lake 9/25 0820 wx for Salt Lake, Ogden & Provo, ID "AM 700," snowmobile ad, into easy listening, seemed automated. (REW-HI)
- 730 CKDM MB, Dauphin 11/21 1800 fair at SSS w/nx & sports. CKLG nulled. (EH-WA)
- 750 KFQD AK, Anchorage 11/17 0713 fair w/ID by YL, rock songs. KXL off. (EH-WA)
- KMMJ NE, Grand Island 9/4 0650 spot for Grand Island & Fremont, hog market, many IDs as KMMJ; 0700 Mutual nx. Dominant. (REW-HI)
- *KX1# OR, Portland 11/17 0634 noted w/OC. (EH-WA)
- 770 KATL MT, Miles City 10/29 1909 all alone, but very weak. Heard part of an ad for "The Big Sky (something; a store, I think) in Miles City into Paul Harvey's Rest of the Story. Following that, the announcer said, "Top of the afternoon everyone, Ron Smith with ya in the KATL newsroom on the Intermountain Farm News Radio Network" into livestock & grain trade prices from Omaha. New. (GK-OR) (100 lashes with the penguin flipper to my husband Bill on this one. Guy sent his tip in a letter to Bill a couple weeks ago, and Bill just found it in a stack of correspondence!--NH)

- 790 KEKA CA, Eureka 12/3 1936 good w/ID, Eureka ads. (JW-OR)
- 800 KDDD TX, Dumas 12/2 0701 nx, sports, wx. Poor, XEROK apparently off. New, TX #72. (BW-CO)
- 820 KCBF AK, Fairbanks 10/30 1030 Country Countdown, "KCBF news," sports, temp. minus 3 at KCBF studio; 1039 Gary Pucket song. Good. (REW-HI)
- 860 KKOW KS, Pittsburg 9/19 0624 spot for Natl. Bank of Pittsburg, temp. at KKOW studios, 0630 nx. Dominant. (REW-HI)
- 890 KDXU UT, St. George-NV, Las Vegas 11/24 2310 country mx, "Levon," ID by DJ "KDXU good time." Format appears to be oldies. Level WLS. New, ex-1450. (REW-HI)
- 910 KURY OR, Brookings 11/9 1100 spot "serving the whole area from Eureka to Coos Bay," nx; o/u KNEW. (REW-HI)
- 920 KARN AR, Little Rock 12/3 2200 play-by-play of Arkansas vs San Diego State BKB. Fair, o/u QRM. (BW-CO)
- KQEO NM, Albuquerque 9/19 at 1500 w/oldies of the 60's & 70's, and promo as "Albuquerque's only oldies station." (MH-OTR)
- 930 WKY OK, Oklahoma City 12/3 2219 promo for "Victorian Christmas" celebration in Guthrie. Very good signal. (BW-CO)
- 940 KIXZ TX, Amarillo 12/3 2240 Talknet program, 2300 ABC nx. Very good signal, even tho looped away from TX to avoid local KIMN-950 slop. (BW-CO)
- 960 ?KLZX? UT, Provo 11/29 1655 heard these calls very clearly in jingle ID "The Classic hits, at 960, KLZX." Strong in KABL null, wx for Provo at 1708, followed by another ID "Classic Hits 960," Beatles mx. Seems to be ex-KDOT, though I don't have a listing anywhere for KDOT to change calls to KLZX. FM listed as KAYK, at 96.1 FM, so thought I had an FM sim., perhaps AM still KDOT??? Did FM change calls??? Calls obviously mean "Klazzix" (rough pronunciation of word "classics"). Will call to confirm this. (RW-CA)
- 970 KIAK AK, Fairbanks 10/31 1100 ID "First by a country mile, KIAK Fairbanks." Mutual nx, 1104 local nx, temp. 5 below, 1107 into DJ show. Clear; my local KPUA used to be here, now on 670. (REW)
- KUZZ CA, Bakersfield 11/10 0107 time check, "5 in a row" ID for KUZZ, Dolly Parton, country standards; o/u XEJ & KYTE. (REW-HI)
- WFLA FL, Tampa 11/11 0406 temp "75° at WFLA," promo by Bruce Williams for his NBC Talknet show. O/u XEJ. Verified for my first FL verie here; said my report was #1 from HI. Might be best bet for FL on the West Coast. (REW-HI)
- 980 KINS CA, Eureka 11/11 1122 spot for Eureka Adult School, The People's Choice." Local wx, spot for HBO, wx for Gresham County, Arcata. Into C&W. In clear. (REW-HI)
- KCTY CA, Salinas 11/9 1055 ID "En KCTY, Radio Noventa y Ocho," norfeña mx; o/u KPWB. (REW-HI)
- KVLV NV, Fallon fair w/KPWB 0902-0918 12/6 w/s/on, light C&W, promo for college football game. New, NV #13. (TRH-CA)
- KSVC UT, Richfield-Salina faded up for s/on 0900 12/6 w/clear ment. of "Richfield-Salina" in the ID. (TRH-CA)
- 990 KRKT OR, Albany 11/15 0506 fair in KOMO-1000 splat w/ABC nx, ID by YL into C&W mx. (EH-WA)
- 1000 KRHS AZ, Bullhead City 9/18 w/promos as in DXM/LHC's log on 11/23 DXM. When heard, they were playing oldies as a one day thing and inviting listener response to a regular oldies format. Now oldies or rock? Both? (MH-OTR)
- 1010 KCHJ CA, Delano 9/3 0500 UPI nx, 0504 s/off, still speaks of "1010 kilocycles," will return at "5 am," 0505 America The Beautiful, 0507. KCMJ Palm Springs, now on 1140, was never heard here on 1010. (REW-HI)
- 1020 KWIQ WA, Moses Lake North 12/3 0500 fair w/ID, o/u KYXE. New. (JW-OR)
- KYXE WA, Selah-Yakima 11/13 1105 C&W DJ show; 1108 spot for jewelry store in Selah, insurance, local wx; mostly in clear, some KTNQ. Is pronounced "See-lah." (REW-HI)
- 1050 CKSB MB, Winnipeg 11/14 0728 FF sports by man w/Canadian accent; dominant. (REW-HI)
- 1060 WNOE LA, New Orleans 12/2 0223 wx forecast: "cold" w/low of 48° "in the French Quarter." (It was 20 here as I heard this). Good in KUKQ null. (BW-CO)
- KYW PA, Philadelphia 11/10 0010 ID, nx. Believe this is an all-news station, at least always has news when I hear it. Mixed w/others. (REW-HI)
- 1070 CFAK BC, Victoria 12/1 2210 extremely strong burying KNX w/ID, much stronger than usual. Did they forget to use their night DA? (RW)

1080 KWJJ OR, Portland 11/12 1200 nx, 9am in Portland, 1202 sports, 1203 ID as "JJ." Good, KWAJ is off the air. (REW-HI)

1140 KMJJ NV, North Las Vegas 11/10 2133 promo for Sun. evening sports, ID as "KMJJ...Valley Radio." O/u KRAK. (REW-HI)

1170 KVOO OK, Tulsa 12/3 0523 fair w/ID, local wx. First time this location. (JW-OR)

1190 CFSL SK, Weyburn 11/29 0335 xlint in KEX null w/sports, "S-L" IDs, and C&W mx. (EH-WA)

1210 KASY WA, Auburn 9/24 0900 nx, spot for Robert's Motors in Auburn's Auto Row, 0906 wx, ID, into Tina Turner; o/u other, possibly KREW Sunnyside, WA, no KZOO on northeast Beverage. (REW-HI)

KRSV WY, Afton 10/27 2150 1000 Hz tone, 2200 ID "This is broadcasting station KRSV Afton, WY," back into 1000 Hz. O/u KYMN, KZOO. (REW)

1230 KRDR OR, Gresham 12/3 0552 fair w/C&W, ID, Portland ads. New. (JW-OR)

1250 KBBI AK, Homer-Kenai 11/3 1045 relaying CBC "Sunday Morning" excellent nx & culture show from Toronto; ID 1100. Good. (REW)

1250 KLAZ AR, Little Rock 12/2 0558 wx, nx headlines. Fair sig, wiped out by WREN 1059 s/on. Ex-KOKY. (JW-CO)

KLLK CA, Willits-Ft. Bragg 11/10 1100 ID "You're listening to K-double L-K Willits-Ft. Bragg," into nx; QRM Japan-1251, other U.S. (REW-HI)

1270 KSSA TX, Ft. Worth 12/2 0251 song by Jose Feliciano, other SS MOR vocals. "Radio Variedades" jingles. 0801 EE/WW ID. Fair at best, w/KBRQ-1280 slop. (JW-CO)

1280 KREL NV, Henderson-Las Vegas 9/10 0800 ID "KREL, radio for southern Nevada," into Mutual nx. Dominant. (REW-HI)

KQAK OR, Eugene 11/28 1753 way on top of freq. w/Frank Sinatra mx, clear IDs as "You're in tune with the New Q," another ID as "Twelve-eighty, K-quack," legal ID on hour. Didn't fade out for 10 minutes! Been after this call change for 3 months, now, ex-KYKN. (RW-CA)

1300 KHUG OR, Phoenix 12/3 0635 good w/Medford ads, Mt. Ashland promo, C&W mx. ID as "K-Hug." (JW-OR)

1310 KCRE CA, Crescent City 11/5 1050 John Denver, live DJ, promo Top 40 Countdown Sun. mornings at KCRE. Clothing store ad. Dominant. (REW-HI)

KDIA CA, Oakland 12/3 0643 good w/ID, urban contemp. mx. First time heard since return to air. (JW-OR)

1320 KAVI CO, Rocky Ford 12/1 1841 s/off annct by OM. Poor in QRM. (JW)

1340 KATA CA, Arcata 12/3 2019 good but ID only through the crowd. (JW)

KSFE CA, Needles 9/18 w/promos for "Thirty years of oldies on your oldie's station" (live), and into oldies mx. (MH-OTR)

1370 KXTL MT, Butte 11/25 1848 fair o/CFOK w/contest promo, ID into MOR songs. (EH-WA)

1400 KCOM NE, Alliance 12/1 1729 YL w/wx, road report. (JW-CO)

1410 KOOQ NE, North Platte-Ogallala 12/1 1800 ID "K-O-O-Q North Platte-Gothenburg-Ogallala," then half hour of MOR vocals, local ads. Slogans included "Super Q Country" and "Regional Radio." Good, but fadey in KCOL partial null. (JW-CO)

1420 KTAN AZ, Sierra Vista 11/25 0146 annct. of public auction at Fort Huachuca. Fair, o/u QRM. (JW-CO)

WOC IA, Davenport 11/24 1907 local wx, briefly o/QRM. (JW-CO)

1440 KPRO CA, Riverside-San Bernardino 11/30 0535 fair w/talk show recorded yesterday, ID, local wx. ID as "Riverside-San Bernardino." (JW-OR)

KPUR TX, Amarillo 11/29 0303 briefly in KBRC-1430 splat w/"Caper" IDs. (EH-WA)

1450 KDXU UT, St. George per my report in 11/23 WDXR, I meant will go nights on 890! They've always been nights on 1450! (RW-CA) (That is what I thought you meant.--NH)

1500 KUMU HI, Honolulu poor to fair o/KHPT 12/6 0727-0810 w/30-minute EZL mx blocks, IDs on hour and half hour. KHPT surprisingly weak this morning--almost thought they were off at first. (TRH-CA)

1520 KSGO OR, Oregon City 11/4 0524 ID "Your all-time favorites, old-time radio, KSGO." Into "Brazil." Atop, KOMA appeared off. (REW-HI)

KOMA OK, Oklahoma City 9/19 1930-2400 w/Vikings-Bears game. Many promos as "K-O-M-A, about to become a thing of the past." Local spots w/one recurring spot for an oldies nightclub & station promo tied in w/the place. (MH-OTR)

1550 KQWB ND, West Fargo-Fargo 9/5 0600 N. Dakota nx, 0606 wx, 0615 today's Birthdays, "KQ weather," 0618 temperature "at KQEB." Dominant. (REW-HI)

- 1560 KBEW MN, Blue Earth 12/2 0637 sudden s/on, early, w/school closures, blizzard updates. Temp. was -2°, wind chill -40°. Good sig, but rapid fading. (ØW-CO)
- WQXR NY, New York 10/31 0320 brief ID & opera, not enuf for a report yet. Do West Coasters hear this? (REW-HI) (Not very often here.-NH)
- 1580 KLOQ CA, Merced 11/11 1110 PSA to report immigration harassment, pharmacy spot in SS, fiesta promo. O/u KDAY, I haven't heard CBJ this season. (REW-HI)
- KPIK CO, Colorado Springs 12/3 1703 "Talkback," w/Bob Larson, discussing suggestive lyrics in modern C&W mx. 1759 ID as "Modern Christian Radio," no QRM until 1745 when KNIX showed up (playing C&W mx w/suggestive lyrics). (ØW-CO)
- KHBJ TX, Canyon 9/19 1900 fading out w/local spots, oldies, EZL inst. mx, promo for "United Station's Network News," and Dick Clark's "Rock, Roll and Remember" on Sundays at 1000. (MH-OTR)
- 1590 KVGB KS, Great Bend 12/3 1818 YL w/wx. Fair sig, but bad KRYX-1600 slop. (ØW-CO)
- 1610 KMC490 CA, Barstow 9/18 1330 male anncr w/info on wx, Mojave desert, Barstow weigh stn, hours of 0830-1700 Pacific Time as hours open (not sure what the hours were in reference to: weigh stn or just what), and ended w/brief instrumental mx of 8-10 sec, and repeat. Address: Bureau of Land Management, 831 Barstow Road, Barstow, CA 92311. (MH-OTR)

ID'ing an UNID:

LHC's report of KIKR-900 in 11/23 WDXR not possible, as KIKR now on 880 kHz, and has applied for calls KNRO. Per old IRCA Almanac, other poss's are KALT and KCLW-TX, 500 & 250-D respectively. However, I haven't seen either of these reported on WC before. KFBA, Floydada, TX (now KKAP) is reported occas in S. CA, perhaps they're now on the Texas State network, i.e. a new affiliate. (RW-CA)

UNIDs:

- 720 11/25 0721 unID u/WGN, faded out quickly w/TC of "7:21," putting it in EST. Only possible choice seems to be WMYX-GA. Other ideas? (RW)
- 880 12/2 0339 unID u/KRVN w/MCN // KTRB-860. No affiliates listed in new Almanac on this freq, but KJJR-MT listed as affiliate in 11/2 WDXR, probably them. (RW-CA)
- 890 11/8 0530-0555 1000 Hz tone o/WLS; off 0555. Suggest either KDXU or KBYE (REW-HI)
- 1400 11/18 0041 unID way u/KRE w/Portland Trailblazers post-game show // KMFR-880. Only affiliates listed are KNND, KJDY & KBCH, all of which I still need! Whatever it was, it was new! (RW-CA)

I've received a request for all Mexican stations to be deleted from WDXR. Currently, if a Mexican is a U.S. border station I've included it in the column. It has been argued that a Mexican station belongs in the foreign sections and not WDXR. What is your opinion? Do the Mexicans belong in DWXW instead of WDXR? Please let me know your opinion! ♡

Washington Post 12-8-85, via Gardiner Smith

Second Catholic Radio Closes in Haiti

Stations Went Off the Air After Reporting on Demonstrations

United Press International

PORT-AU-PRINCE, Haiti, Dec. 7—A Catholic radio station in Cap Haitien, Haiti's second largest city, went off the air yesterday following several power outages and telephone threats against the staff, a spokesman said. It was the second station to go off the air following growing unrest in the country.

"Things have been rough. We've had interruptions in electric power and telephone threats," a spokesman for Radio Ave Maria said.

The 5-kilowatt radio station is affiliated with Catholic Radio Soleil, a station ordered off the air late Thursday. Authorities closed down Radio Soleil after it reported on the growing unrest and violence.

[A spokesman for the Washing-

ton Office on Haiti, a church-funded group, said two Cabinet ministers visited Radio Soleil on Thursday and ordered the station not to broadcast any news about demonstrations. It was then shut down.]

Four students were killed by police Nov. 28 in Gonaives, the scene of Haiti's food riots last year, and several other demonstrators were wounded.

Although no government-run media issued an official statement on Radio Ave Maria, officials say authorities were unhappy with its anti-government stand.

Radio Ave Maria sponsored a prayer march following the Nov. 28 deaths in Gonaives, 110 miles north of Port-au-Prince.

The students were killed during a

demonstration protesting the July 22 referendum giving President Jean-Claude Duvalier more power.

The government-run National Television repeated an official statement issued by the minister of interior and national security, Jean-Marie Chanoine, announcing that Hubert Deronceray, a former minister of social affairs and delegate to UNESCO, had been arrested in his home Thursday.

Unconfirmed reports suggested that several other people have been arrested in Petit Goave, Cayes and Gonaives, where several demonstrations have been held following the students' deaths.

In Port-au-Prince, a government official said, "The president is in full control of the situation."

Voix d'ave Mar is on 1230 & listed as 1kw WRTH. R. Sole is on 1170 wit 10kw & widely heard on east coast per Gardiner Smit

A SURVEY OF AVAILABLE MEDIUM WAVE FIELD STRENGTH PREDICTION METHODS

Randall J. Seaver, (c) 1985

1. INTRODUCTION

The prediction of the field strength of Medium Wave radio waves at night has been of interest to the radio broadcasting community since the inception of radio in the 1920's. Predictions are necessary to enable estimation of interference to adjacent and co-channel stations and to permit allocation of new stations.

Field strength predictions are of interest to DXers because they provide a data base for comparison of receptions of individuals. If observed field strengths were consistent with predicted field strengths, then the prediction method could be used to systematically evaluate potential target stations.

The field strength prediction methods described in this survey article have been summarized and defined in:

PoKempner, Margo
"Comparison of Available Methods for Predicting Medium Frequency
Sky-Wave Field Strengths",
U.S. Department of Commerce,
National Telecommunications and Information Administration,
Institute for Telecommunications Sciences,
Boulder, CO 80303 USA
NTIA Report 80-42
June 1980
(Available from Dept. of Commerce NTIS as PB80-211444)

The summary of this report is:

"The chronological development of the available methods for predicting medium frequency sky-wave field strengths is presented with a brief discussion of each method. Measured field strengths for 36 medium frequency skywave paths are compared with the predicted field strengths from several prediction methods. Based on the rms errors between observations and predictions, the 1938 Cairo Curves provide the best estimates of the sky-wave field strengths for very long paths worldwide. A new prediction method developed for use in North and South America only, provides improved estimates of the sky-wave field strengths for paths < 3500 km."

The report was concerned only with the reliability of existing methods of predicting long-distance propagation of MF radio waves at night. It was prepared to support the second session of the International Radio Consultative Committee (CCIR in French) of the International Telecommunication Union (ITU) in Buenos Aires in 1981 where a frequency plan of assignments in the MF broadcasting band in North and South America was to be drawn up.

2. AVAILABLE MEASURED FIELD STRENGTH DATA

There are two basic sets of measured field strength data that have been used for comparison of prediction methods. These are:

- a) The International Broadcasting Union (IBU) conducted three measurement campaigns in the northern hemisphere during the winters of 1934/5, 1935/6, and 1936/7. The campaigns involved paths ranging from 5000 km to 11900 km and frequencies close to 1000 khz. This resulted in 36 transmission paths which are tabulated in Table 1 below. This data was used to develop the Cairo Curves, which will be discussed in more detail in Section 3.
- b) The FCC curves for sky-wave propagation are based on recordings on 500 transmission paths at frequencies ranging from 640 to 1190 khz and distances of 160 to 4000 km during early 1935, and

an extensive measurement campaign on 27 paths ranging from 300 to 3500 km and transmitting on frequencies from 540 to 1500 khz taken between 1939 and 1944. The FCC curves will be discussed in more detail in Section 3. The measured data for the 27 paths taken in 1944 is presented in Table 2.

All of the data in these tables have been normalized to represent an effective monopole radiated power of 1 kw, thereby removing the effects of transmitter power from the measurements using the standard equation:

$$F_p = 10 \log P \quad (\text{dB})$$

where P is the effective radiated power in kilowatts

F_p is the field strength gain in decibels relative to $1 \mu\text{V/m}$.

3. PREDICTION METHODS

The field strength prediction methods recommended by Pokempner (1980) are presented in the sections below. Full details on their derivation can be found in Pokempner (1980).

TABLE 1. PROPAGATION PATH DATA (1934-1937 IBU DATA)

Path No.	Transmitter Location	Receiver Location	Freq. (khz)	Dist. (km)	Sunspot No.	Observed (dB) *
1	Northern Ireland	Ottawa, Canada	977	4797	100	-14.1
2	Sackville, Canada	Chatonnaye, France	1070	5272	0	2.6
3	Moncton, Canada	Chatonnaye, France	1070	5298	0	0.0
4	Northern Ireland	Washington, DC	977	5346	100	-18.2
5	Rennes, France	Ottawa, Canada	1040	5426	100	-13.5
6A	Rennes, France	New York City	1040	5573	20	-9.0
6B	Rennes, France	New York City	1040	5573	100	-21.0
7	Masirah Is, Oman	Leucate, France	1410	5706	0	18.3
8	New York City	Brussels, Belgium	860	5791	100	-17.0
9A	New York City	Eindhoven, Neth.	860	5839	20	-13.6
9B	New York City	Eindhoven, Neth.	860	5839	100	-15.1
10	Masirah Is, Oman	Limours, France	1410	5884	0	10.8
11	Akita, Japan	Darwin, Australia	770	5885	0	17.5
12	Rennes, France	Washington, DC	1040	5910	100	-18.5
13	Singapore	Brisbane, Australia	790	6055	0	-1.0
14A	New York City	Berlin, Germany	860	6287	20	-19.5
14B	New York City	Berlin, Germany	860	6287	100	-31.0
15	Rome, Italy	Tsumeb, SW Africa	845	6795	0	5.5
16	Martinique	Jurbise, Belgium	1310	7001	0	0.0
17	Ban Phachi, Thai.	Brisbane, Austr.	1580	7198	0	3.0
18	Ismaning, Germany	Tsumeb, SW Africa	1602	7526	0	-1.1
19	Akita, Japan	Brisbane, Austr.	770	7584	0	8.5
20	Bangkok, Thailand	Helsinki, Finland	1580	7882	0	-7.5
21	Cairo, Egypt	Klang, Malaysia	620	7886	0	0.7
22	Rome, Italy	St Denis, Reunion	845	8240	0	9.8
23	Buenos Aires	Washington, DC	1070	8383	0	2.0
24	New York City	Buenos Aires	860	8518	0	2.0
25	Buenos Aires	New York City	1070	8536	0	2.0
26	Pittsburgh, Pa	Buenos Aires	980	8622	0	2.0
27	Akita, Japan	Melbourne, Austr.	770	8644	0	5.0
28	Poro, Philippines	Helsinki, Finland	1140	8791	0	-5.2
29	Buenos Aires	Ottawa, Canada	1070	9043	0	2.0
30	Swan Island	Helsinki, Finland	1157	9333	0	-22.0
31	Kuwait	Darwin, Austr.	1345	9986	0	-7.0
32	Rennes, France	Buenos Aires	1040	10786	100	-9.9
33	Buenos Aires	London	1070	11127	100	-11.5
34	Buenos Aires	Brussels, Belgium	1070	11298	100	-13.5
35	Buenos Aires	Eindhoven, Neth.	1070	11400	100	-7.5
36	Buenos Aires	Berlin, Germany	1070	11903	100	-17.0

* Measured Field Strength in dB relative to $1 \mu\text{V/m}$

TABLE 2. PROPAGATION PATH DATA (FCC 1944 DATA)

Path No.	Transmitter Location	Receiver Location	Freq. (kHz)	Dist. (km)	Observed (dB) *
US 1	New York City	Baltimore, Md	880	300	44.8
US 2	Des Moines, Iowa	Grand Island, Neb.	1040	425	44.8
US 3	Rochester, NY	Baltimore, Md	1180	430	44.7
US 4	Raleigh, NC	Baltimore, Md	680	432	44.7
US 5	Denver, Colo	Grand Island, Neb.	850	568	46.5
US 6	Cincinnati, Ohio	Atlanta, Ga	1530	592	47.9
US 7	Cincinnati, Ohio	Atlanta, Ga	700	623	44.2
US 8	Minneapolis	Grand Island, Neb.	830	623	38.0
US 9	St. Paul, Minn	Grand Island, Neb.	1500	627	41.2
US 10	Cincinnati, Ohio	Baltimore, Md	700	662	41.5
US 11	Cincinnati, Ohio	Baltimore, Md	1530	687	44.9
US 12	Dallas, Tex.	Grand Island, Neb.	820	898	43.9
US 13	Salt Lake City	Grand Island, Neb.	1160	1155	40.3
US 14	Cincinnati, Ohio	Grand Island, Neb.	700	1203	30.6
US 15	San Antonio, Tex.	Grand Island, Neb.	1200	1262	39.7
US 16	Watrous, Sask.	Portland, Ore.	540	1434	25.6
US 17	Guatemala City	Kingsville, Tex.	1020	1636	37.5
US 18	Belize	Powder Spr., Ga.	834	1850	35.0
US 19	Los Angeles	Grand Island, Neb.	640	1900	23.6
US 20	Dallas, Tex.	Baltimore, Md	820	1959	24.2
US 21	Minneapolis	Portland, Ore.	830	2278	10.4
US 22	St. Paul, Minn.	Portland, Ore.	1500	2305	10.9
US 23	Dallas, Tex.	Portland, Ore.	820	2598	13.9
US 24	Chicago, Ill.	Portland, Ore.	890	2818	0.1
US 25	Cincinnati, Ohio	Portland, Ore.	700	3188	0.1
US 26	New Orleans, La.	Portland, Ore.	870	3297	13.3
US 27	Atlanta, Ga.	Portland, Ore.	750	3494	-1.9

* Median (50%) Measured Field Strengths in dB relative to 1 μ V/m for a transmitter power of 1 kW

Cairo Curves

The Cairo Curves are shown in Figure 1. The North-South curve represents trans-equatorial propagation, and the East-West curve represents propagation at high latitudes. The curves are solely a function of distance, and the effects of transmitter power can be added to the predicted field strength. A curve of the inverse distance is also shown; the difference between the inverse distance curve and the other curves is the additional loss due to ground losses, absorption losses, etc.

The original curves were in terms of the quasi-maximum value (exceeded not more than 5% of the time). For the median values, these curves should be reduced by 9 dB, according to the CCIR 1978 meeting.

FCC Curves

There are two sets of the FCC curves for sky-wave propagation. Both sets of curves are contained in the FCC Rules and Regulations.

Figure 2 shows the 1935 data for field strength exceeded 10% and 50% of the time, based on vertical polarization and second hour after sunset at the west end of the path. The 1935 curves were adopted by treaty in 1960 by Canada, Cuba, Mexico, the Dominican Republic and the Bahama Islands and are used for determining frequency assignments for international clear-channel broadcasting stations.

Figure 3 shows the 1944 curves for field strength exceeded 10% and 50% of the time, based on vertical polarization and second hour after sunset at the path midpoint, as a function of geographic latitude and distance. Minimum solar activity occurred in 1944, and the highest skywave field strengths were measured, and therefore this data represents the worst case for determining service areas and interference. These curves are used by the FCC for determining

frequency assignments for domestic non-clear-channel broadcasting stations.

The FCC curves only extend to a range of about 4000 km, and should not be used beyond that distance.

CCIR 1978 Method

The recommended CCIR (Recommendation 435-3) sky-wave field strength prediction method is:

$$F_o = 106.6 - 2 \sin \phi - 20 \log p - .001 kr p - Lp + Gs$$

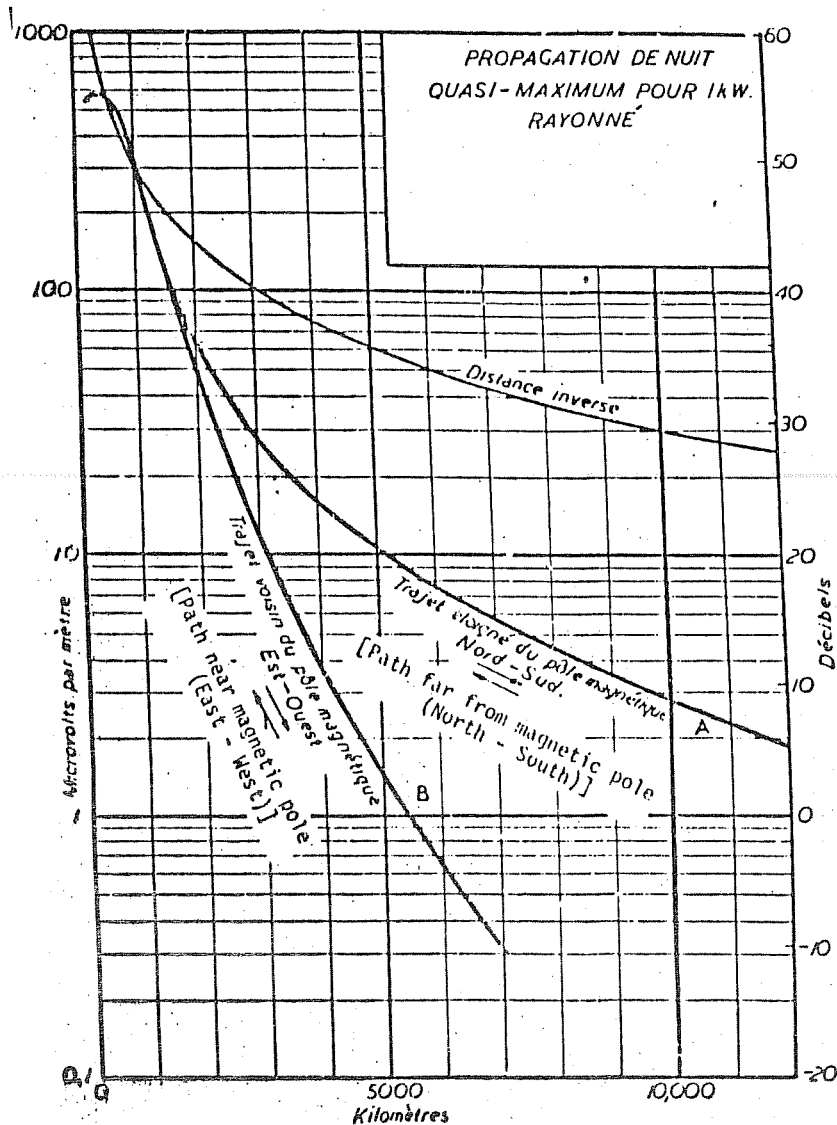


Figure 1. Quasi-maximum field intensity at great distances for propagation at night for a radiated power of 1 kW.

where: F_0 is the annual median field strength (dB above $\mu\text{V}/\text{m}$) at the reference time (6 hours after sunset 750 km from the terminal where the sun sets last)

ϕ is a geomagnetic latitude parameter, calculated from the transmitter and receiver geomagnetic latitudes.

p is the slant propagation distance in km, calculated by the equation:

$$p = \sqrt{(d^2 + 4h^2)} \quad (\text{km})$$

where d is the ground distance (km)

→ h is the virtual height of the ionosphere.

$h = 100$ km for E-layer ($f < f'$)

$h = 220$ km for F-layer ($f > f'$)

$$\text{and } f' = 350 + \sqrt{[300^2 + (2.8 d)^2]} \quad (\text{kHz})$$

kr is a loss factor, defined as:

$$kr = k + .01 b R$$

$$\text{where } k = 3.2 + 0.19 (f)^{0.4} \tan^2 (\phi + 3)$$

f is frequency in kHz

b is a solar activity dependence factor,

$b = 1$ for Europe and Australia,

$b = 4$ for North America

$b = 0$ elsewhere

R is the 12-month smoothed Zurich sunspot number

Lp is the excess polarization-coupling loss (dB)

G_s is the sea gain correction (dB)

Pokempner (1980) contains the figures and maps required to determine the geomagnetic latitude parameter, the polarization loss and the sea gain.

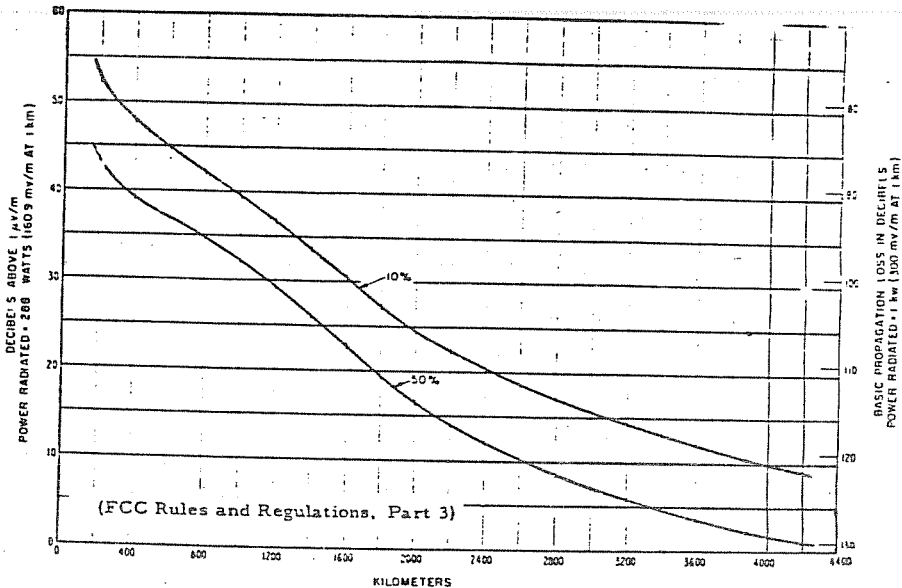


Figure 2. U.S. sky-wave field strength exceeded 10 percent and 50 percent of the time at 1000 kHz. Based on 1935 measurements, vertical polarization, and second hour after sunset at west end of path (Barghausen, 1966).

Wang 1979 Method

This is a proposed modification of the recommended CCIR 1978 prediction method. Wang suggested that the basic loss factor, k , be changed to:

$$k = (0.0667 |\phi| + 0.2) + 3 \tan \alpha (|\phi| + 3) \quad (\text{for } 0 < \phi < 60 \text{ deg})$$

Wang claimed that this increases the accuracy in high- and low-latitude areas without affecting the prediction in average latitude areas and assumes no frequency dependence.

For the solar activity dependence factor, b , Wang proposed modifying the CCIR fixed values for each continent to:

$$b = 0.4 |\phi| - 16 \quad (\text{for } |\phi| > 45 \text{ deg})$$

$$b = 0.0 \quad (\text{for } |\phi| < 45 \text{ deg})$$

These equations attempt to simulate the auroral zone effects by assigning a high solar activity factor, b , above 45 degrees geomagnetic latitude. Unfortunately, Wang proposed no upper limit on the value of b , and a geomagnetic latitude of 90 degrees results in a b value of 20. An upper value of $b = 4$ may be more reasonable.

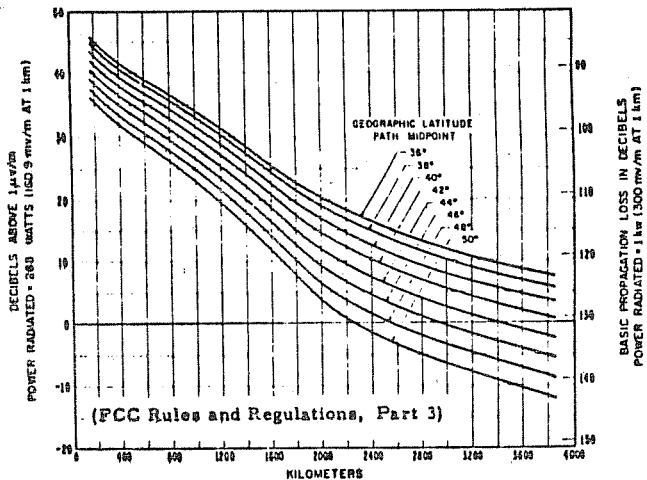
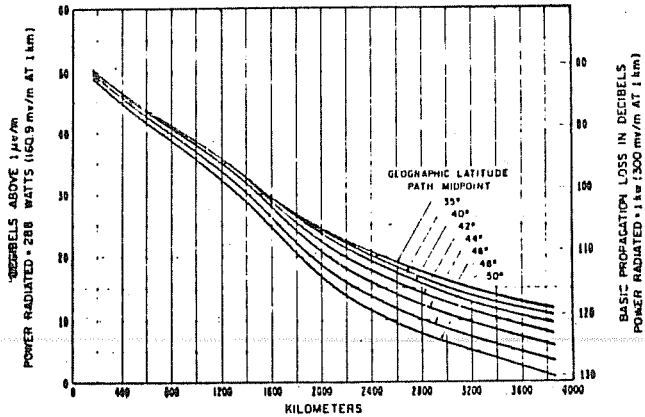


Figure 3. U.S. sky-wave field strength exceeded 10 percent (upper curve) and 50 percent (lower curve) of the time at 1000 kHz. Based on 1944 measurements, vertical polarization, and second hour after sunset at path midpoint (Barghausen, 1966).

Other Methods

PoKempner (1980) lists other methods considered by the CCIR during its evolution of field strength prediction methods. One of the methods considered was that of Knight (1973), which provides graphs and curves for determining the number of hops, ground loss at transmitter and receiver, polarization coupling loss at transmitter and receiver, ionospheric loss, intermediate reflection loss, and corrections for two or more propagation modes. The Knight method was tested for 152 paths by the EBU, but it tended to be laborious and time-consuming, especially for long distance paths. Therefore, the Knight method was not compared with the other methods in the PoKempner report.

4. COMPARISON OF PREDICTED AND MEASURED VALUES

PoKempner (1980) provides the observed and the predicted field strength values for 36 paths measured in the early 1930's, including some paths from which the Cairo Curves were derived. The various CCIR prediction methods were probably developed from most of the 36 paths. Twenty-two of the paths have at least one terminal in North, Central or South America, and the remaining 14 paths are representative of other CCIR regions.

The following conditions were established for the CCIR 1978 and Wang methods:

F_o is the annual median half-hourly median field strengths for an effective monopole radiated power of 1 kw, relative to local midnight at the path midpoint(s). Average ground conductivity is assumed, typically 3 to 10 mS/m; and the antennas are assumed to be omnidirectional short verticals.

However, the Cairo Curves are based on the quasi-maximum measured field strengths, which is about 9 dB above the median field strength. The Cairo Curve data should have 9 dB subtracted from it to be consistent with the CCIR 1978 and Wang methods.

The observed field strength and the predicted field strengths using the Cairo Curves, the CCIR 1978 and the Wang methods are presented in Table 3 for the 36 paths, grouped according to path. The CCIR 1978 and Wang methods include the method for determining sea gain, and this is included where applicable. The Wang method was not used to predict field strengths on the Europe, Africa, Asia and Pacific paths.

Because the Cairo Curves were derived from measured field strengths, the effects of sea gain, polarization loss and solar activity are included in the curves.

The CCIR 1978 and Wang methods predict median field strengths, and should have 9 dB added to them for comparison with the measured field strengths listed, since the measured data is quasi-maximum field strengths. The CCIR 1978 method data has been modified by adding 9 dB to the predicted median field strengths for comparison purposes in the second column for the CCIR 1978 data.

The root-mean-square (RMS) error between the measured and predicted field strength values are also shown in Table 3 for each prediction method.

Table 4 provides a similar comparison of predicted (Cairo Curves, CCIR 1978, and Wang 1979 methods) with observed data for 27 U.S. paths and 5 North America to South America paths. The CCIR 1978 and Wang 1979 predictions include the effects of sea gain where applicable. Due to the relative shortness of the U.S. paths, the 9 dB correction from quasi-maximum Cairo Curve values has not been applied. No sunspot effects are listed since most of the data was taken in one calendar year.

It is extremely difficult to draw valid conclusions from the comparison of prediction methods with the observed data because the reliability of the observed field strengths is uncertain. The IBU data was taken over several years, and at different times of the year. The effects of transmitter height (assumed a short vertical in the Cairo curves), the effect of solar activity and magnetic field effects, diurnal effects (the prediction methods assume path mid-point local midnight), and the known non-reciprocal propagation on East-West paths are other factors that may contribute to the uncertainty of the data.

Inclusion of the sea gain factor in the CCIR and Wang prediction methods is based on assumed locations of transmitters and receivers. The sea gain correction seems to bring the predicted field strengths on the paths between Europe and the Americas and between the Americas more into line with the observed data, but tends to worsen the correlation of the paths between Europe, Africa, the Mideast, Asia and the Pacific with the observed data. This may occur because the former paths are primarily overwater paths, while the latter paths are primarily overland paths.

On an overall basis, the Cairo curves seem to provide the best correlation with the observed data, with an RMS error of about 8 dB. This should not be surprising, since the Cairo curves were partially based on the observed data.

TABLE 3 - COMPARISON OF MEASURED AND PREDICTED FIELD STRENGTH VALUES

Path No.	Freq. (kHz)	GCD (km)	R	Cairo Curve	CCIR 1978	CCIR + 9 dB	Wang 1979	Observed
1. North America to Europe								
1	977	4797	100	-3.8	-42.0	-33.0	-68.5	-14.1
2	1070	5272	0	-7.6	-17.8*	- 8.8*	-20.4*	2.6
3	1070	5298	0	-7.7	-19.4*	-10.4*	-22.3*	0.0
4	977	5346	100	-8.0	-40.3	-31.3	-61.8	-18.2
5	1040	5426	100	-9.0	-40.2	-31.2	-59.3	-13.5
6	1040	5573	20	-9.8	-21.3*	-12.3*	-23.9*	-9.0
6	1040	5573	100	-9.8	-32.4*	-23.4*	-48.0*	-21.0
8	860	5791	100	-11.5	-29.0*	-20.0*	-48.5*	-17.0
9	860	5839	20	-11.7	-18.4*	- 9.4*	-24.6*	-13.6
9	860	5839	100	-11.7	-30.1*	-21.1*	-50.2*	-15.1
12	1040	5910	100	-12.1	-37.7	-28.7	-50.0	-18.5
14	860	6287	20	-14.4	-22.1*	-13.1*	-30.6*	-19.5
14	860	6287	100	-14.4	-34.7*	-25.7*	-55.5*	-31.0
RMS Error				8.4	17.2	10.1	31.7	
2. North America to South America								
23	1070	8383	0	3.4	-5.7	3.3	9.3	2.0
24	860	8518	0	3.1	1.7*	10.7*	15.6*	2.0
25	1070	8536	0	2.9	0.6*	9.6*	15.0*	-2.0
26	980	8622	0	2.7	-7.2	1.8	7.9	2.0
29	1070	9043	0	1.8	-11.9	- 2.9	3.5	2.0
RMS Error				2.4	8.3	6.9	10.6	
3. South/Central America to Europe								
16	1310	7001	0	6.6	-9.9*	-0.9*	-6.1*	0.0
30	1157	9333	0	1.4	-31.1*	-22.1*	-27.7*	-22.0
32	1040	10774	100	-1.3	-12.2*	- 3.2*	9.1*	-9.9
33	1070	11127	100	-1.8	-17.7*	- 8.7*	3.8*	-11.5
34	1070	11298	100	-2.3	-15.3*	- 6.3*	7.4*	-13.5
35	1070	11400	100	-2.5	-16.0*	- 7.0*	6.8*	-7.5
36	1070	11903	100	-3.2	-18.2*	- 9.2*	5.6*	-17.0
RMS Error				12.5	7.1	4.9	16.1	
4. Europe, Africa, Mideast, and Asia								
7	1410	5706	0	9.6	16.9*	25.9*		18.3
10	1410	5884	0	9.2	4.9*	13.9*		10.8
15	845	6795	0	7.0	11.0*	20.0*		5.5
18	1602	7506	0	5.2	-2.2	6.8		-1.1
20	1580	7882	0	4.6	-7.3*	1.7*		-7.5
22	845	8240	0	3.7	7.6*	16.6*		9.8
28	1140	6791	0	2.3	-9.1*	-0.1*		-5.2
RMS Error				7.2	3.6	8.4		
5. Mideast, Asia and Pacific								
11	770	5885	0	9.2	15.4*	24.4*		17.5
13	790	6055	0	8.9	16.4*	25.4*		-1.0
17	1580	7198	0	6.2	11.0*	20.0*		3.0
19	770	7584	0	5.0	3.1	12.1		8.5
21	620	7886	0	4.6	5.8*	14.8*		0.7
27	770	8644	0	2.6	-2.7	6.3		5.0
31	1345	9988	0	0.4	7.4*	16.4*		-7.0
RMS Error				6.0	9.9	15.8		
TOTAL RMS ERROR				8.2	11.7	10.1	23.4	

* Includes Sea Gain in Calculation

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